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THE BIRDS OF THE RIO MADEIRA.

By C. E. HELLMAYR.

I. INTRODUCTION.

THE Rio Madeira, the mightiest affluent to the Amazons from the south, has been somewhat neglected by naturalists, and, until recently, our knowledge of its avifauna rested exclusively on the researches of John Natterer, who, in 1828, 1829, and 1830, had made extensive collections on this river. The results of his exertions are embodied in A. von Pelzeln's well-known work "*Zur Ornithologie Brasiliens. Resultate von Johann Natterer's Reisen in den Jahren* 1817 *bis* 1835," Vienna, 1867-70.* In 1906 Mr. W. Hoffmanns visited the district, collecting at **Humaytha** on the left bank, at **Paraiso** and **Borba** on the right side. This material, consisting of several hundred specimens, went to the Tring Museum, and an account of it has been given by me in *Novitates Zoologicae*, vol. xiv. 1907, pp. 343-412. In March 1907 Mr. Hoffmanns returned to his old hunting-grounds, working chiefly on the right bank of the river, and continued collecting until October 1908, when ill-health once more put an end to his activity. Though much hampered by frequent attacks of malaria, for which the Madeira has a very bad reputation, Mr. Hoffmanns was able to bring together a series of about 1300 bird skins, which, together with those secured on his first trip, makes a total of 2000 specimens. Besides these I have examined, thanks to the generous assistance of Dr. von Lorenz, the greater portion of the material obtained by Natterer on the Madeira and Guaporé Rivers.

The following article may, therefore, be looked upon as a complete *résumé* of our present knowledge of the ornis of the Madeira region, which I have deemed best to restrict to that portion of the stream from Borba upwards to the junction of the Beni and Guaporé Rivers, the country below Borba being wholly unexplored. Four hundred and sixty-four species have been ascertained to occur within this area, although I feel sure that future explorations will considerably swell this list.

It remains to say a few words about the localities visited by Mr. Hoffmanns on his second expedition. The majority of the specimens were obtained at a place called **Calama,** situated on the right bank just below the junction of the Rio Giparana or Machados, which forms the boundary between the Brazilian states Amazonas and Mattogrosso. **Jamarysinho** is a hamlet on the left side of the Machados, near its mouth, and **São Isabel** a little village on the Rio Preto, a small affluent which flows into the Machados not far from its junction with the Madeira. **Allianca** is a settlement farther up the stream, a little above the mouth of the Rio Jamary. **Maruins** is situated on the left bank of the Machados, several journeys

* According to Von Pelzeln (*op. cit.* p. 392, note) A. R. Ferreira visited, between 1783 and 1793, the Madeira and Guaporé Rivers. His collections are said to have gone to Lisbon, but, as far as I am aware, have never been reported upon.

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above the waterfalls, where, according to Mr. Hoffmanns, the aspect of the country changes. While the Madeira and the lower Machados flow through level country, there are many isolated hill-ranges and rocks on the upper course of the latter river. A thorough exploration of this district, from which Mr. Hoffmanns was prevented through bad health, would certainly yield a rich harvest to the naturalist. **Santa Maria do Marmellos** is a village on the left bank of the Madeira, and **Manicoré** (Las Onças), where, however, but a few skins were secured, is again on the right side, below the mouth of the Rio Manicoré.

The greater part of the material thus gained came into the possession of the Tring Museum. The lot from Maruins, together with a few skins from Marmellos and Allianca, as well as the duplicates from Calama, have been acquired by the Zoological Museum of Munich, while a small number of specimens went to Count Berlepsch's collection.

Mr. Hoffmanns, I regret to say, did not live to see the results of his labours appear before the scientific public. Shortly after his return to Crefeld he contracted a severe chill, which rapidly developed into pneumonia and ended fatally on January 18, 1909. His premature death is a serious loss to science, and especially to ornithology, which is indebted to him for many striking novelties, e.g. *Pipra exquisita*, *P. hoffmannsi*, *Anoplops hoffmannsi*, etc. Wilhelm Hoffmanns was born in Crefeld, Germany, in 1865, and from his earliest youth professed a great taste for natural history and collecting. On leaving school he entered the service of a commercial establishment in Crefeld, where he remained as clerk for several years, but he gave up this post and went to Peru, where he made large collections of insects and birds. In later years Hoffmanns was more particularly interested in ornithology, and the long list of papers which I contributed to this journal on his researches speaks well for his energy and zeal. His eminently truthful character and straightforwardness endeared him to all who had to do with him, and will make us even more strongly feel the loss of so faithful a friend.

II. ACCOUNT OF THE SPECIES.

1. **Turdus phaeopygus phaeopygus** Cab.

Turdus phaeopygus Cabanis in Schomburgk, *Reisen in Brit. Guiana*, iii. p. 666 (1848.—Brit. Guiana) ; Pelzeln, *Zur Ornith. Brasil.* ii. 1868. p. 93 (Borba) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 344 (Humaytha).

Nos. 89, 322. ♂ ad., ♂ imm., Calama, 21. vi., 1. viii. 1907. "Iris brown, feet black or plumbeous, bill black."—Wing 105, 100 ; tail 88, 83 ; bill 16, 17 mm.

Agreeing well with our series from British Guiana and the Caura Valley, Eastern Venezuela.

2. **Turdus ignobilis debilis** Hellm.

Turdus ignobilis debilis Hellmayr, *Journ. f. Ornith.* 1902. p. 56 (1902.—Salto Theotonio, Rio Madeira —Natterer coll.).

T. Poiteauii (nec Bonaparte *) Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 94 (Salto Theotonio).

No. 679. ♂ ad., S. Isabel, Rio Preto, 11. x. 1907. "Iris brown, feet and bill black."—Wing 105½ ; tail 81 ; bill 18 mm.

* *Turdus Poiteauii* Lesson, *Traité d'Ornith.* p. 409 (nom. nud.); Bonaparte, *Notes Coll. Ornith. Delattre*, 1854. p. 28; Pucheran, *Arch. Mus. Paris*, vii. 1855. p. 377; idem, *Rev. Mag. Zool.* (2) x. 1858. p. 464.—I have examined the two original specimens, both from Cayenne (1822), in the Paris Museum. One is *T. p. phaeopygus* Cab., while the other, mentioned as *Pl.* (*T.*) *amaurochalinus* by Bonaparte and Pucheran, belongs to *T. albiventer* Spix.

This bird is practically identical with others from Eastern Ecuador and Northern Peru. Compared with a series of true *T. i. ignobilis* Scl. from Bogotá collections, it fully bears out the distinctive characters as given *l.c.* See also my remarks in *Nov. Zool.* xiii. 1906, p. 5.

T. i. debilis ranges from Eastern Ecuador through Northern and Central Peru to N.W. Brazil (Rio Purús and Rio Madeira). Occasionally it is also met with in Bogotá collections (cf. *Nov. Zool.* xiii. 1906, p. 5).

3. **Turdus amaurochalinus** Cab.

Turdus amaurochalinus Cabanis, *Mus. Heinean.* i. p. 5 (1850.—"Brasilien").

No. 668. ♀ ad., S. Isabel, Rio Preto, 10. x. 1907. "Iris brown, feet grey, bill blackish, base of lower mandible yellowish."—Wing 110; tail 92; bill 20 mm.

This bird agrees perfectly with a series from S.E. Brazil and Corrientes, Argentine. It differs from the specimen of *T. i. debilis* obtained at S. Isabel by Mr. Hoffmanns by its longer wings and tail, blackish loral spot, pure white chin (without any brown striations), much broader and more blackish brown stripes on the throat, much paler, buffy brownish instead of plain ashy breast and sides, clear ochraceous buff (not greyish brown) under wing-coverts, and by having well-defined, bright ochraceous edges to the inner webs of the remiges, altogether absent in *T. i. debilis*. The bill, too, is not uniform blackish, the basal half of the lower mandible being clear yellowish brown; there is also a spot of pale brown on the culmen near the tip.

This is, so far as I know, the first record of *T. amaurochalinus* from any Amazonian locality, though its occurrence on the Rio Madeira is not to be wondered at, for it was well known as an inhabitant of Northern Bolivia on the headwaters of that river. I expect, moreover, that *T. brunneus* Lawr.* will also prove to belong to *T. amaurochalinus*.

It is highly interesting to meet with *T. amaurochalinus* and *T. i. debilis* in the same locality. There can be no longer any doubt about their **specific** distinctness.

4. **Turdus hauxwelli** Lawr.

Turdus hauxwelli Lawrence, *Ann. Lyc. Nat. Hist. New York*, ix. p. 265 (Aug. 1869.—Pebas, N.E. Peru); Seebohm, *Cat. Birds Brit. Mus.* v. 1881. p. 217 (Iquitos, Peru); Sharpe-Seebohm, *Monogr. Turd.* i. p. 251 (Eastern Peru); Hellmayr, *Nov. Zool.* xiv. 1907. p. 40 (Teffé); idem, *l.c.* p. 344 (Humaytha, Rio Madeira); Snethlage, *Journ. f. Ornith.* 1908. p. 7 (Cachoeira, Ponto Alegre, Rio Purús).

Merula hauxwelli Ihering, *Mus. Paulist.* vi. 1905. p. 430 (Rio Juruá).

Turdus fumigatus (nec Licht.) Sclater & Salvin, *P. Z. S. Lond.* 1866. p. 177 (Nauta, N. Peru); iidem, *l.c.* 1873. p. 255 (Nauta, Chamicuros, Santa Cruz, Pebas).

Merula fumigata hauxwellii Allen, *Bull. Amer. Mus.* ii. 1889. p. 78 (Reyes, Beni R., North Bolivia).

No. 708. ♀ ad., S. Isabel, Rio Preto, 16. x. 1907. "Iris brown, feet dark grey, bill green."—Wing 113; tail 92; bill 18½ mm.

No. 82. Adult (not sexed), Calama, 21. vi. 1907. "Iris brown, feet brownish grey, bill dark brown."—Wing 110; tail 90; bill 19 mm.

No. 467. ♀ juv., Calama, 27. vii. 1907. "Iris brown, feet greyish brown, bill blackish."—Wing 107; tail 84; bill 18½ mm.

Besides these I have examined the following specimens of *T. hauxwelli*: two topotypical ♂♂ ad. from Pebas, coll. Castelnau & Deville (one in the Paris, the other in the British Museum); ♀ ad., Iquitos (H. Whitely, jun., coll.), ♀ ad., Santa

* *Ibis*, 1878. p. 57. tab. i. (Upper Amazons).

Cruz, Ucayali (E. Bartlett coll.), both in the British Museum; ♂ ad., Teffé, Rio Solimoëns, ♂ ad., Humaytha, Rio Madeira, left bank (W. Hoffmanns coll.), in Tring Museum; ♀ ad., Rio Juruá, W. Brazil (coll. E. Garbe), belonging to the Museu Paulista; and three adults from the Rio Purús: ♂♀ Cachoeira, ♂ Bom Lugar, preserved in the Museu Goeldi at Pará.

This series fully corroborates what I said in *Nov. Zool.* xiv. 1907, p. 40. The upper parts are always lighter or darker "mummy-brown" (Ridgw. t. iii. fig. 10); foreneck, breast, and sides "wood-brown" (Ridgw. t. iii. fig. 19) or earthy brown with a slight rufescent tinge; the middle of the abdomen is largely white, the under tail-coverts white with dark brown bases. The axillaries and under wing-coverts are ochraceous buff, or wood-brown washed with pale ochraceous at the tips. Sometimes there is a narrow, ill-defined, buff edge along the inner web of the remiges, but in most specimens the latter is quite or nearly uniform greyish.

The young bird (No. 467), when compared with *T. fumigatus* in corresponding age, shows the distinctive characters even more strongly emphasized than the adults. In Nos. 708 and 82 some hairlike filaments are to be seen among the normal feathers of the nape. This particularity has also been noticed by Lichtenstein in the allied *T. fumigatus*.*

The female of *T. leucops* Tacz. bears a striking likeness to *T. hauxwelli*, but, on closer examination, may easily be distinguished by the deep orange under wing-coverts, more regular and darker, blackish brown stripes of the throat, and especially by the different wing-formula, the third, fourth, and fifth primaries being longest, and the second equal to the sixth. In *T. hauxwelli*, on the other hand, the fourth and fifth form the tip, the sixth is but from 2 to 3 mm. shorter, while the second falls between the seventh and eighth primaries.

It is a curious fact that Mr. Hoffmanns should have met with *T. hauxwelli* in the Rio Madeira district, while Natterer, eighty years ago, obtained its ally, *T. fumigatus*, at nearly the same places (*vide infra*).

T. hauxwelli has evidently a wide range in Amazonia. Unlike so many other Upper Amazonian types, it inhabits the left (Humaytha) as well as the right bank (S. Isabel, Calama) of the Rio Madeira. Farther to the west it was obtained by Garbe on the Rio Juruá, and by the expeditions of the Goeldi Museum on the Upper Purús. Hoffmanns sent a specimen from Teffé, Rio Solimoëns. In Peru several naturalists—E. Bartlett, Castelnau & Deville, Hauxwell, and Whitely—secured specimens on the banks of the Marañon, at Iquitos, Pebas, Nauta, Samiria, etc. The first-named of these travellers also took an example near Santa Cruz, on the Ucayali, and Dr. Allen records two specimens from Reyes, on the Rio Beni, Northern Bolivia.

[5. **Turdus fumigatus fumigatus** Licht.

Turdus fumigatus Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 38 (1823.—"Brasilia"); Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 94 (Engenho do Gama, S. Vicente, Borba).

1. ♂ ad., Borba, right bank of the Rio Madeira, June 21, 1830 (Natterer coll.).—Wing 112; tail 95; bill 20 mm.

2. ♀ ad., Borba, August 3, 1830 (Natterer coll.).—Wing 100; tail 90; bill 18 mm.

3. ♂ imm., Engenho do Gama, Mattogrosso, September 1829 (Natterer coll.).—Wing 110; tail 90; bill 19 mm.

* *Verz. Dubl. Berliner Mus.* 1823. p. 38. No. 438.

4. ♀ ad., Engenho do Gama, July 1829 (Natterer coll.).—Wing 110; tail 95 mm.

5. ♀ ad., S. Vicente, Guaporé, December 1829 (Natterer coll.).—Wing 110; tail 90; bill 19 mm.

These five specimens which belong to the Vienna Museum are quite distinct from Mr. Hoffmanns' skins of *T. hauxwelli*. The upper parts are much more richly coloured, being deep cinnamomeous or ochreous brown, the axillaries and under tail-coverts bright orange, the inner webs of the quills broadly edged with ochraceous buff. The general colour of the under surface is also quite different, bright cinnamomeous brown passing into ochraceous in the middle of the abdomen; the throat is buff, striped with russet-brown (instead of whitish, with olive- or earthy brown streaks), and the under tail-coverts are buff or ochraceous, broadly edged with russet-brown. The three skins from the Guaporé (Nos. 3-5) differ slightly from the Borba couple by having the middle line of the abdomen white, and the under tail-coverts also mixed with whitish. In this respect they agree with an adult from Itaituba, Rio Tapajóz.]

[6. **Donacobius atricapillus** (Linn.).

Turdus atricapillus Linnaeus, *Syst. Nat.* xii. 1. p. 295 (1766.—ex Brisson: "Cap. boni spei"—errore! We substitute *Cayenne*).
Donacobius atricapillus Pelzeln, *l.c.* p. 49 (Borba).

Right bank: Borba (Natterer).

Widely distributed in Northern South America from Bolivia and Mattogrosso northward to Venezuela.]

7. **Heleodytes turdinus hypostictus** (Gould).

[*Opetiorhynchus turdinus* Wied, *Reise Brasil.* ii. p. 148 (1821.—Rio Doce, Espiritu Santo; Rio Catolé, Bahia.—Cf. my revision of Spix's types, p. 626.]
Campylorhynchus hypostictus Gould, *Proc. Zool. Soc. Lond.* xxiii. 1855. p. 68 (1855.—Rio Ucayali, Eastern Peru).
Heleodytes turdinus hypostictus Hellmayr, *Nov. Zool.* xiv. p. 345 (Humaytha).
Campylorhynchus variegatus Pelzeln, *Zur Orn. Bras.* i. p. 49 (Borba).

No. 1067. ♂ vix ad., Manicoré (right bank), 24. viii. 1908. "Iris clear brown, feet dark grey, bill grey."—Wing 86; tail 80½; bill 21 mm.

No. 446. ♂ ad., Calama, 24. viii. 1907. "Iris yellowish red, feet grey, bill black, below grey."—Wing 92; tail 88; bill 22 mm.

Madeira specimens agree well with the Peruvian ones.

[8. **Leucolepis modulator modulator** (D'Orb.).

Thryothorus modulator D'Orbigny, *Voyage, Oiseaux*, p. 230 (Oct. 1838.—Yuracarès, Yungas, Bolivia).
Leucolepia modulator rufogularis (errore!—nec Des Murs) Hellmayr, *Nov. Zool.* xiv. 1907. p. 346 (Humaytha).

Left bank of the Madeira: Humaytha (Hoffmanns).

The adult male obtained at Humaytha in 1906 has been erroneously referred to *L. m. rufogularis*. Having once more examined the material in the Berlepsch, Paris, and Tring Museums, including the types of *T. modulator* D'Orb. and *Sarochalinus rufogularis* Des Murs,* I have come to the conclusion that if *modulator* from Bolivia and *rufogularis* from Eastern Peru and N.W. Brazil (Teffé, etc.) be

* Castelnau's *Voyage, Oiseaux*, p. 49. pl. xvii. fig. 1 (1856.—Sarayacu, Eastern Peru).

kept distinct, the Humaytha bird has to go with the former. In fact, on comparing three adults from Bolivia with Mr. Hoffmanns' specimen, I find that they agree in having the ferruginous colour below restricted to the throat and foreneck, and the abdomen of a rather pale rufescent brown ; while in skins from Peru and Teffé the ferruginous is extended farther down the middle of the chest, and the abdomen is decidedly deeper rufous brown. Adults of both forms show the cheeks and ear-coverts uniform deep ferruginous.

Leucolepis modulator salvini (Sharpe),* from Eastern Ecuador (Rio Napo) and S.E. Colombia (Cuembi, Rio Putumayo),† differs from both by having the cheeks and ear-coverts deep olive-brown without any ferruginous, and by its darker wings. In the extent of the ferruginous colour on the lower parts it resembles *L. m. rufogularis*.]

9. **Leucolepis modulator griseolateralis** (Ridgw.).

Cyphorhinus griseolateralis **Ridgway, *Proc. U.S. Nat. Mus.* x. 1887. p. 518 (1888.—Diamantina near Santarem, Rio Tapajóz).**

No. 946. ♂ ad., Maruins, Rio Machados, 27. vi. 1908.—Wing 63 ; tail (moulting) 34 ; bill 17½ mm.

Nos. 174, 348, 428. ♂♂ ad., ♂ imm., Calama, 6. vii., 7, 19. viii. 1907.—Wing 65—67 ; tail 37—39 ; bill 17—17½ mm.

Nos. 175, 352, 427. ♀♀ ad. and imm., Calama, 6. vii., 8, 19. viii. 1907.—Wing 62—64; tail 34—36; bill 15½—17 mm.

No. 962. ♀ juv., Maruins, 30. vi. 1908.—Wing 62 ; tail 34; bill 17 mm.

"Iris brown, feet dark or blackish brown, bill black, below grey."

This series differs from *L. m. modulator* by the clearer brown, less rufescent upper parts, and earthy brown or ashy (instead of dark olive-brown) sides of the neck, breast, and abdomen. Moreover, the superciliary stripe, instead of being uniform deep ferruginous, is buffy white in its posterior portion, and the wings are shorter. Like *L. m. modulator*, the ferruginous colour is confined to the throat and foreneck ; the cheeks and ear-coverts are ferruginous, with some slight brownish streaks near the upper border of the auricular patch.

The specimens tally well with Ridgway's description, except that in none of them is the "hindneck tinged with greyish," nor can the lower portion of the auriculars be termed "dull light greyish, very indistinctly striped with darker." These slight discrepancies may, however, disappear on actual comparison.

The series presents a considerable amount of variation, chiefly in the coloration of the lower parts. Nos. 946 and 348 have the breast and abdomen dull ashy, passing into dingy whitish grey in the middle of the chest, and very slightly tinged with pale brownish on the flanks. In the other specimens the belly is pale earthy brown, with the flanks more decidedly olive-brown, and the middle of the chest sometimes paling to dull buffy. The under tail-coverts are generally bright cinnamon-rufous, but in two skins (Nos. 348 and 427) scarcely more rufescent than the abdomen. The intensity of the ferruginous colour of the throat, forepart of the crown, etc., is rather variable; the brown of the back is sometimes shaded with olive, etc. The maxilla is black, the mandible yellowish.

The young bird (No. 962) differs very markedly from *modulator* juv. (ex

* *Cyphorhinus salvini* Sharpe, *Cat. Birds Brit. Mus.* vi. p. 292. pl. xviii. fig. 1 (1881.—Rio Napo, Eastern Ecuador).

† There are two adults from this locality, collected by G. Hopke, in Mus. H. v. Berlepsch.

Bolivia) by its much paler belly, the breast being dull rusty buff, the inner sides and flanks light rufescent olive-brown.

L. modulator griseolateralis replaces *L. m. modulator* on the right bank of the Rio Madeira, ranging eastward as far as Santarem, south bank of the Amazons.

10. **Thryothorus genibarbis genibarbis** Sw.

Thryothorus genibarbis Swainson, *Anim. in Menag.* p. 322 (1838.—"Brazil").
Thryothorus melanos (nec Vieillot) Pelzeln, *Zur Orn. Bras.* i. p. 48 (part. : Borba).

No. 671. ♂ imm., S. Isabel, Rio Preto, 10. x. 1907.—Wing 63; tail 56; bill 18 mm.

No. 646. ♀ ad., S. Isabel, 8. x. 1907.—Wing 59; tail 56; bill 16½ mm.

No. 380. Juv., Calama, 11. viii. 1907.—Wing 59; tail 48; bill 15½ mm.

No. 717. ♀ pull., S. Isabel, 19. x. 1907.—Wing 59; tail 49; bill 14 mm.

"Iris red (671), reddish brown (646), brown (380, 717); feet plumbeous (adult), brownish black (juv.); bill black, below grey."

These birds agree, in size and coloration, with typical *T. genibarbis* from Bahia, except that the pileum and nape are distinctly rufescent brown, instead of sooty. An adult male from Borba (Natterer coll.), however, is not different on this score. The young bird, in nestling plumage, very closely resembles the same stage of *T. coraya* (Gm.).

T. g. genibarbis ranges from Bahia north to Pará, and westwards to the right bank of the Madeira (Borba, Calama, S. Isabel).

[11. **Thryothorus genibarbis juruanus** Ihering.

Cf. *Nov. Zool.* xiv. p. 345 (Humaytha).

Represents the foregoing on the left bank of the Madeira: Humaytha (Hoffmanns). It differs by its longer wings and rather paler under parts, yet its validity requires confirmation by a larger series.]

12. **Thryophilus albipectus albipectus** (Cab.).

Thryothorus albipectus Cabanis in Schomburgk, *Reisen in Brit. Guiana* iii. p. 673 (1848.—Cayenne).
Thryophilus taenioptera Ridgway, *Proc. U.S. Nat. Mus.* x. 1887. p. 518 (1888.—Diamantina near Santarem, Tapajóz).
Thryothorus leucotis (nec Lafresnaye) Pelzeln, *l.c.* p. 47 (Salto do Girao, Barra do Rio Madeira).
"*Thryophilus albipectus* subsp." Hellmayr, *Nov. Zool.* xiv. p. 345 (Humaytha).

No. 685. ♂ ad., S. Isabel, Rio Preto, 12. x. 1907.—Wing 67; tail 48; bill 19 mm.

No. 460. ♂ ad., Calama, 26. viii. 1907.—Wing 64; tail 48 mm.

No. 872. ♀ ? juv., Marmellos, 27. xii. 1907.—Wing 61; tail 43; bill 16⅓ mm.

"Iris reddish brown (adult), greyish brown (872); feet and bill greyish black, lower mandible grey."

The specimens agree, in every detail, with a large series of *T. albipectus*, from Pará and Venezuela (Caura Valley), in the Munich Museum. Natterer's examples from Barra do Rio Madeira and Manáos, as well as two adult males from the Upper Purús (Bom Lugar, Monte Verde), are rather darker ochraceous below than the majority of our Caura and Guianan skins, but some of the latter match them exactly. The skins from Humaytha, S. Isabel, and Calama, on the other hand,

resemble average specimens of *T. albipectus*, in the paleness of the lower parts, the tinge of the back, etc. In view of this great individual variation I consider it impossible to separate the Amazonian race *T. taenioptera*.

T. a. albipectus is thus seen to inhabit Cayenne, Surinam, British Guiana, and Eastern Venezuela (Caura), and to range southwards to the main valley of the Amazons (from Pará to Manáos) and its southern tributaries (Tocantins, Tapajóz, Rio Madeira, and Purús).

On the Rio Juruá and in Eastern Peru, however, a small, darker form is met with. Cf. *Nov. Zool.* xiv. 1907, p. 3.

[13. **Odontorhynchus cinereus** Pelz.

Odontorhynchus cinereus Pelzeln, *Zur Orn. Bras.* i. p. 67 (1867.—Salto do Girao).

Right bank : Salto do Girao (Natterer).

Thanks to the kindness of my friend Dr. Lorenz, I have been enabled to examine the type belonging to the Vienna Museum. Though quite distinct generically, *Odontorhynchus* is perhaps nearest to *Thryophilus*, but may be readily distinguished by the strongly curved culmen with a very distinct subterminal notch. The style of coloration, too, is very different. The type, an immature female, measures : wing 52 ; tail 49½ ; bill 12 mm

The Paris Museum possesses a male obtained on the Rio Javarri in 1846, by Castelnau and Deville. It is larger (wing 59 mm., tail incomplete), with apparently a broader, stronger bill (which, however, is much damaged by the shot), the upper parts rather more of an olive-grey, the cross-bands of the tail much broader, the lower parts dull light grey (instead of white), etc. Until additional specimens come to hand it cannot be decided whether the Javarri bird is specifically identical with *O. cinereus* or not.]

14. **Troglodytes musculus clarus** Berl. & Hart.

[*Troglodytes musculus* Naumann, *Vög. Deutschl.* iii. p. 724. table (1823.—Bahia).]
Troglodytes musculus clarus Berlepsch & Hartert, *Nov. Zool.* ix. p. 8 (1902.—Bartica Grove, British Guiana).

No. 730. ♂ ad., Calama, 26. x. 1907. "Iris greyish brown, feet grey, bill black, below greyish red."—Wing 52 ; tail 38 ; bill 14 mm.

Agrees in coloration with our large series from Pará, Venezuela (Caura, Cumaná), Trinidad, etc. This is the first record from the Rio Madeira, and the southernmost locality of the species in Brazil.

Farther to the south, on the Rio Guaporé (Villa Bella de Mattogrosso), in Western Mattogrosso (Cuyabá, etc.), and Eastern Bolivia, it is replaced by *T. musculus rex* Berl. & Lev.*

15. **Oporornis agilis** (Wilson).

Sylvia agilis Wilson, *Amer. Ornith.* v. p. 64. pl. 39. fig. 4 (1812.—Connecticut ; Pennsylvania near Philadelphia).

No. 789. (♂) imm., Allianca, 16. xi. 1907. "Iris brown, feet greyish brown, bill blackish, below grey."—Wing 71 ; tail 47 ; bill 11¾ mm.

This bird I have compared with specimens from Cambridge (Mass.), Illinois,

* *T. furvus* Gm. subsp. n. *rex* Berlepsch & Leverkühn, *Ornis* vi. p. 6 (1890.—Samaipata, E. Bolivia) ; *Thryothorus platensis* (errore !) Pelzeln, *Zur Orn. Bras.* i. p. 48 (part. : Mattogrosso, Cuyabá : specimens examined).

Wisconsin, and Tonantins, Amazonas,* from all of which it slightly differs by having the throat more mixed with whitish, and the bases of the jugular feathers dull cinereous. Otherwise it agrees, in size and coloration, with females and immature males. Count Berlepsch, to whom it has been submitted, also declares it to be *O. agilis*.

Allianca is the most southerly winter record of the species. An adult female was obtained, in 1884, by Gustav Garlepp at Tonantins, on the Rio Solimoëns.*

16. **Basileuterus fulvicauda semicervinus** Scl.

[*Muscicapa fulvicauda* Spix, *Av. Bras.* ii. p. 20. pl. xxviii. fig. 2 (1825.—no locality ; cf. Hellmayr, *Abhandl. Bayer. Akad. Wissensch. II. Kl.* xxii. 3. p. 652).]

Basileuterus semicervinus Sclater, *Proc. Zool. Soc. Lond.* 1860. p. 84 (1860.—Nanegal, Western Ecuador).

No. 498. ♂ ad., Calama, 31. viii. 1907.—Wing 68; tail 55 ; bill 12½ mm.

"Iris brown, feet light brown, bill black."

This bird agrees with specimens from Nanegal and other localities in Western Ecuador in having the supraloral and superciliary stripe deep fawn-colour, and the lower parts somewhat lighter fawn with the middle of the belly largely white. It differs, however, by the clearer olive-green back, and by the rather wider dusky apical band of the rectrices, which besides is strongly tinged with olive-green as in *B. f. fulvicauda*. Without additional material it is, of course, impossible to say if these differences are of any value; but the close resemblance of the Calama bird in itself is a remarkable fact, since in Eastern Ecuador (and probably in other districts of Upper Amazonia) we meet with the well-characterized *B. f. fulvicauda* (see *l.c.* pp. 652-3). The latter appears to have a peculiarly restricted range. All specimens examined by me (two in the British Museum, one in Mus. H. v. Berlepsch) are from Eastern Ecuador, but Spix's type is supposed to have been obtained on the Rio Solimoëns or one of its branches (Içа or Caquetá).

On the other hand, *B. f. semicervinus* is widely distributed in Colombia and Western Ecuador. I have before me twenty-seven specimens from Bogotá, W. Colombia (Juntas, Jiménez, Sipi, province Chocó), and Ecuador (Nanegal, Paramba, Cachabi, Chimbo, etc.), belonging to the Tring and Munich collections. The late Dr. Sharpe † referred two ♂♂ from Eastern Peru (Santa Cruz, Chyavetas) to *B. uropygialis* (=*fulvicauda*), but I doubt the correctness of this identification, for these birds are more likely to belong with *B. f. semicervinus* or with *B. f. poliothrix* Berl. & Stolzm.‡

17. **Granatellus pelzelni pelzelni** Scl.

Granatellus pelzelni Sclater, *P. Z. S. Lond.* 1864. p. 606. tab. 37. fig. 1 (1865.—Destacamento (erroneously spelt Destaramento) do Ribeirão, River Madeira) ; Pelzeln, *Zur Ornith. Bras.* iii. 1869, p. 216 (Destac. do Ribeirão, Salto do Girao).

G. p. pelzelni Hellmayr, *Nov. Zool.* xiv. 1907. p. 346 (Borba).

Nos. 150, 726. ♂ ad., ♂ vix ad., Calama, 2. vii., 23. x. 1907. "Iris brown, feet black, bill black, lower mandible grey."—Wing 55, 54 ; tail 54, 53 ; bill 11, 10½ mm.

* Berlepsch, *Journ. f. Ornith.* 1889. p. 98 (not p. 2 as cited by Ridgway).

† *Cat. Birds Brit. Mus.* x. pp. 405-6.

‡ *B. uropygialis poliothrix* Berlepsch & Stolzmann, *Proc. Zool. Soc. Lond.* 1896. p. 331 (1896.—La Gloria, Chanchamayo, Central Peru).

No. 536. ♂ ad., Jamarysinho, Rio Machados, 11. ix. 1907. "Iris brown, feet grey, bill blackish grey."—Wing 55 ; tail 51 ; bill 10½ mm.

No. 152. ♀ ad., Calama, 2. vii. 1907. "Iris brown, feet and bill blackish."—Wing 54 ; tail 53 ; bill 10½ mm.

This series, which is to be considered topotypical, does not differ in any way from Caura examples. In the males, the slate-grey of the flanks is separated by a distinct white stripe from the rosy red colour of the belly, forehead and crown are glossy black, and behind the eye there is a broad, lengthened stripe of white. The distinctness of *G. p. paraensis* Rothsch.* is thus fully confirmed. The range of the two forms is as follows :—

(*a*) *G. p. pelzelni* Scl.

North Bolivia : Falls of the Madeira (Rusby).† North Brazil : Destacamento do Ribeirão, Salto do Girao (Natterer), Borba, Calama (Hoffmanns), on the Rio Madeira ; Jamarysinho, Rio Machados (Hoffmanns) ; Itaitúba (Hoffmanns, ‡ Snethlage §), Villa Braga (Snethlage §), Rio Tapajóz ; Arumatheua, left bank of Tocantins (Snethlage ‖). British Guiana : Camacusa (H. Whitely, jun. ¶). Venezuela ** : Munduapo, Orinoco (Cherrie) ; Suapure (Klages), La Pricion, La Union, Nicare (André), Caura River.

(*b*) *G. p. paraensis* Rothsch.

N.E. Brazil : Prata near Pará (Hoffmanns *).

18. **Pachysylvia thoracica semicinerea** (Scl. & Salv.).

[*Hylophilus thoracicus* Temminck, *Rec. Pl. col.* livr. 29. tab. 173. fig. 1 (1822.—"Brésil," sc. Rio de Janeiro ; cf. *Nov. Zool.* xv. 1908. p. 20).]

Hylophilus semicinereus Sclater & Salvin, *P. Z. S. Lond.* 1867. p. 570. tab. xxx. fig. 2 (Pará).

H. thoracicus (nec Temminck) Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 70 (part. : Salto do Girao, Borba : Rio Madeira) ; cf. *Nov. Zool.* xiv. 1907. pp. 5-6.

No. 645. ♂ ad., S. Isabel, Rio Preto, 8. x. 1907. "Iris light yellow, feet clear brown, bill dark grey."—Wing 58 ; tail 47 ; bill 13 mm.

No. 716. ♂ juv., S. Isabel, 19. x. 1907. "Iris white, feet light grey, bill black."—Wing 56 ; tail 51½ ; bill 11 mm.

The differences noticed between topotypical Pará specimens and those from more westerly localities (*l.c.*) do not prove to be constant. The adult ♂ is practically identical with several skins from Pará.

The young bird, whose back is still partly covered with the fluffy, brownish feathers of the nestling plumage, has the bill much shorter, narrower, and **entirely black** (instead of pale brown). The rectrices, too, are longer, distinctly pointed, and interiorily edged with pale yellowish.

* *Bull. Brit. O. C.* xvi. 1906. p. 81 (Prata, Pará) ; Hellmayr, *Nov. Zool.* xiii. 1906. p. 355.
† Allen, *Bull. Amer. Mus. N.Y.* ii. 1889. p. 79.
‡ Hellmayr, *Nov. Zool.* xiv. 1907. p. 5.
§ Snethlage, *Journ. f. Ornith.* 1908. p. 497.
‖ Eadem, *l.c.* p. 521.
¶ Salvin, *Ibis* 1885. p. 204.
** Berlepsch & Hartert, *Nov. Zool.* ix. 1902. p. 10.

The range of *P. t. semicinerea* is as follows :—

Lower Amazons: Pará (Wallace, Layard, Snethlage), Prata near Pará (Hoffmanns); Itaitúba, left bank of the R. Tapajóz (Hoffmanns, Snethlage); Rio Madeira : Borba, Salto do Girao (Natterer), S. Isabel (Hoffmanns).

19. **Pachysylvia rubrifrons** (Scl. & Salv.).

Hylophilus rubrifrons Sclater & Salvin, *P. Z. S. Lond.* 1867. p. 569. tab. xxx. fig. 1 [1867. –"River Amazons (1850)"—Wallace coll.—sc. Rio Negro *].

H. ferrugineifrons (nec Sclater) Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 70 (Rio Negro below Santa Barbara ; Pará).†

No. 344. ♂ juv., Calama, 7. viii. 1907. "Iris brown, feet and bill grey."—Wing 57 ; tail 42 ; bill 13½ mm.

No. 1009. ♂ vix ad., Maruins, 13. vii. 1908. "Iris dark brown, feet pale yellowish grey, bill black, below grey."—Wing 59 ; tail 42½ ; bill 12½ mm.

No. 1023. Adult (not sexed), Maruins, 16. vii. 1908. "Iris brown, feet pale grey, bill grey."—Wing 61 ; tail 44 ; bill 13½ mm.

These specimens present very little variation *inter se*. I have compared No. 344 with the type in the British Museum, and found them identical except that in the latter the throat and foreneck are somewhat darker, more buffy brownish, less yellowish, and the back of a rather duller green. These slight divergencies are certainly due to difference of age, for the type is a very young bird, this being proved by the fluffy texture of the nape-feathers and the rusty suffusion of the under tail-coverts. In fully or nearly adult birds (Nos. 1023, 1009) the latter are clear yellow, the back is rather brighter green, and the throat buffy yellow.

The figure in the *P. Z. S.* 1867 is wholly misleading: throat and foreneck being represented as pale ferruginous, while they are buffy brownish in the type, the wings being far too rufous, etc.

P. rubrifrons is most nearly related to *P. luteifrons* (Scl.), from British Guiana and Cayenne, but differs in having the frontal and supraloral stripe deep cinnamon-rufous (not dingy ochraceous buff), the upper parts of a clearer green (without any brownish shade), the cheeks and ear-coverts decidedly isabelline (instead of greyish olive), the tail much brighter russet-brown, the throat much more tinged with buff, etc.

P. ferrugineifrons (Scl.), from Bogotá and Venezuela, also bears a certain likeness to *P. rubrifrons*, but may readily be distinguished by its duller, rufescent brown tail, greyish olive cheeks and ear-coverts, whitish throat, greyish white (not yellowish) belly, and especially by the rufous colour of the forehead being much duller and continued over the crown.

The range of *P. rubrifrons*, as known at present, is as follows :—

North Brazil: Rio Negro (Wallace), below Santa Barbara, Rio Negro (Natterer). Rio Madeira ‡ : Calama ; Maruins on the Rio Machados (Hoffmanns). Pará (Natterer, Snethlage).

* The type was certainly obtained on the Rio Negro, for we learn from *Travels on the Amazons and Rio Negro*, 1853, p. 163, that Mr. Wallace arrived at the city of Barra do Rio Negro on December 31, 1849, and spent all the year 1850 in explorations on that river.

† Although the specimens are no longer to be found in the Vienna Museum, there can be scarcely any doubt that they are rather referable to *P. rubrifrons*, for it is this species that was obtained by Mr. Wallace on the Rio Negro, and more recently by Miss Snethlage in the vicinity of Pará.

‡ Farther to the west, on the Rio Juruá, however, *P. ferrugineifrons* (Scl.) is found. A specimen in the Museu Paulista, kindly sent for my inspection by Professor H. v. Ihering, agrees perfectly with the series from Bogotá and the Caura Valley in the Munich Museum.

20. **Pachysylvia muscicapina griseifrons** Snethl.

[*Hylophilus muscicapinus* Sclater & Salvin, *Nomencl. Av. Neotrop.* p. 156 (1873.—Cayenne).]
Pachysylvia muscicapina griseifrons Snethlage, *Orn. Monber.* xv. p. 160 (1907.—Villa Braga, left bank of the R. Tapajóz) ; eadem, *Journ. f. Ornith.* 1908. p. 497.

Nos. 897, 915. ♂♂ ad., Maruins, Rio Machados, 2, 8. vi. 1908. "Iris greyish brown or brown, feet plumbeous, bill black, lower mandible grey."—Wing 59, 60½ ; tail 45, 45½ ; bill 13, 14 mm. (Munich Museum.)

P. m. griseifrons appears to be a fairly well-marked form. Compared with the series from Cayenne and the Caura Valley in the Munich Museum, the two skins differ by having the back decidedly brighter yellowish green and the sides of the head conspicuously deeper isabelline-rufous. The chin as well as the upper throat are scarcely different from the colour of the lower throat and foreneck, while they are more or less whitish in the typical race. Furthermore, the dull rufescent frontal band, more or less well pronounced in *P. m. muscicapina*, is absent, the forehead being cinereous like the crown and nape, and the lower tail-coverts are of a deeper olive-yellow. There is no difference as regards size between the two forms, whose ranges are as follows :—

(*a*) *P. muscicapina muscicapina* (Scl. & Salv.).

Cayenne : Oyapoc (Jelski). Surinam (♂♀ in Tring Museum, Chunkoo coll.). British Guiana : Corentyn River (Im Thurn), Bartica Grove, Camacusa (H. Whitely, jun., coll.). East Venezuela : Suapuré, La Union, La Pricion in the Caura Valley (E. André coll.).

(*b*) *P. muscicapina griseifrons* Snethl.

North Brazil : Villa Braga, left bank of the Tapajóz (Snethlage, *type*) ; Maruins on the Machados, right-hand tributary of the Rio Madeira (Hoffmanns).

21. **Vireo chivi** (Vieill.).

Sylvia chivi Vieillot, *Nouv. Dict.* xi. p. 174 (1817.—ex Azara : Paraguay).
Vireosylvia agilis Pelzeln, *l.c.* p. 73 (Borba).

No. 533. ♀ juv., Jamarysinho, 10. ix. 1907. "Iris dark brown, feet grey-blue, bill grey."

Adult birds obtained by Natterer at Borba agree well with others from Paraguay, Brazil, etc. Cf. my remarks in *Nov. Zool.* xiii. 1906, p. 11.

[22. **Vireo calidris calidris** (Linn.).

Motacilla Calidris Linnaeus, *Syst. Nat.* x. p. 184 (1758.—based on Edwards, *Nat. Hist. Birds* iii. p. 121. pl. 121. fig. inf. [pessima !] : Jamaica).
Vireosylvia mystacalis Pelzeln, *l.c.* p. 73 (Borba).

Natterer shot an adult male (in moult) near Borba, February 10, 1830. Thanks to Dr. Lorenz, this bird is now before me, and proves to be an example of *V. c. calidris*. The superciliary line is bright isabelle as in a long suite from Jamaica, Porto Rico, and Haiti, while it is much paler, dull white or buffy whitish in *V. c. barbatula* (from Cuba and Bahama Islands) and *V. c. barbadensis* (from Santa Lucia, Guadeloupe, S. Vincent, etc.) ; cheeks and malar region are tinged with pale isabelline, which is not the case in the last-named races ; the pileum is dull brownish, the tips of the feathers edged with greenish (in *V. c.*

barbatula and *V. c. barbadensis* the pileum is ashy grey without any greenish shade) ; there is no trace of a dusky line above the superciliary stripe, etc., etc.

As far as I know Borba is the most southerly record for *V. c. calidris* in its winter quarters.]

[23. **Cyclarhis gujanensis gujanensis** (Gm.).

Tanagra gujanensis Gmelin, *Syst. Nat.* 1. ii. p. 893 (1789.—ex Buffon's "Verderoux" : "Guyane").
Cyclorhis guianensis Pelzeln, *l.c.* p. 74 (Borba).
Cyclarhis g. gujanensis Hellmayr, *Nov. Zool.* xiv. p. 346 (Humaytha, Borba).

Rio Madeira : Borba (Natterer, Hoffmanns), Humaytha (Hoffmanns). Ranges from Cayenne and Pará all over Amazonia to Eastern Peru.]

24. **Progne chalybea chalybea** (Gm.).

Hirundo chalybea Gmelin, *Syst. Nat.* 1. ii. p. 1026 (1789.—ex Brisson, *Orn.* ii. p. 495. tab. 46. fig. 1, and D'Aubenton, Pl. enl. 545. fig. 2 : Cayenne).

No. 100. ♀ ad., Calama, 23. vi. 1907. "Iris brown, feet bluish black, bill black."—Wing 125 ; tail 64 ; bill 11½ mm.

Agrees in colour and size with specimens from Cayenne, Caura (Venezuela), and Pará. The southern *P. chalybea domestica* (Vieill.), which occurs from Bahia and Goyaz southwards, is much larger, the wing varying from 137 to 145, the tail from 70 to 80 mm.

25. **Progne tapera** (Linn.).

Hirundo Tapera Linnaeus, *Syst. Nat.* xii. 1. p. 345 (1766.—"in America," as type locality fixed *East Brazil* (ex Marcgrave) aut. Berl. & Hart. *Nov. Zool.* ix. p. 14).

No. 760. ♀ ad., Allianca, 8. xi. 1907. "Iris brownish grey, feet and bill black."—Wing 123 ; tail 63 ; bill 11 mm.

26. **Atticora fasciata** (Gm.).

Hirundo fasciata Gmelin, *Syst. Nat.* 1. ii. p. 1022 (1789.—ex Buffon and D'Aubenton, Pl. enl. 724. fig. 2 : Cayenne).
Atticora fasciata Pelzeln, *l.c.* p. 18 (Rio Guaporé above los tres barras).

Nos. 889, 890. ♂♂ ad., Maruins, 30. v. 1908. "Iris, feet, and bill black."—Wing 100, 101 ; tail 72 ; bill 6 mm.

These examples differ from others obtained in British Guiana and Eastern Venezuela (Caura) in smaller size, less forked tail, broader white breast-band, and more steel-blue (less purplish) gloss of the plumage.

[27. **Atticora melanoleuca** (Wied).

Hirundo melanoleuca Wied, *Reise Brasil.* i. p. 345 (1820.—Rio Belmonte, Bahia).
Atticora melanoleuca Pelzeln, *l.c.* p. 18 (Bananeira, Rio Mamoré ; Salto Theotonio).

Rio Madeira : Salto Theotonio (Natterer).]

28. **Dacnis cayana cayana** (Linn.).

Motacilla cayana Linnaeus, *Syst. Nat.* xii. 1. p. 336 (1766.—ex Brisson [excl. syn. Hernandez] : Cayenne).
Dacnis cayana cayana Hellmayr, *Nov. Zool.* xiv. p. 346 (Humaytha, Borba).
D. cyanocephala Pelzeln, *Zur Orn. Bras.* i. p. 25 (Borba).

No. 718. ♀ ad., S. Isabel, Rio Preto, 19. x. 1907. "Iris brown, feet light greyish yellow, bill black."—Wing 61 ; tail 42½ ; bill 12 mm.

Specimens from the Rio Madeira agree, in colour and size, with the typical Cayenne form.

29. **Dacnis angelica angelica** Bonap.*

Dacnis angelica (De Filippi MS.) Bonaparte, *Atti Riun. Sci. Ital.* 1844. p. 404 nota (1845 —" ex Brasilia " : descr. ♂ ad.).
D. cayana (not of Linnaeus) Pelzeln, *l.c.* p. 25 (Salto do Girao).

No. 444. ♀ ad., Calama, 23. viii. 1907. "Iris clear yellow, feet and bill black."—Wing 57 ; tail 41 ; bill 10 mm.

The specimen does not bear out the characters mentioned by me in *Nov. Zool.* xii. p. 271. It is even brighter greenish on the back and sides of the belly than Bogotá skins ; besides the cheeks and throat are distinctly washed with pale greenish blue. An adult male from Salto do Girao (Natterer coll., Vienna Museum) is not appreciably different from others found in Bogotá collections.

30. **Dacnis flaviventer** Lafr. & D'Orb.

Dacnis flaviventer Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 21 (1837.—" Yuracares, rep. Boliviana ").

Nos. 176, 662. ♂♂ ad., Calama, 6. vii. 1907 ; S. Isabel, 10. x. 1907.—Wing 63 ; tail 40, 41 ; bill 12 mm.

No. 340. ♂ imm., Calama, 6. viii. 1907.—Wing 58 ; tail 41 ; bill 11½ mm.

Nos. 490, 720. ♀♀ ad., Calama, 30. viii. 1907 ; S. Isabel, 19. x. 1907.—Wing 64, 61 ; tail 44, 42 ; bill 11, 12 mm.

No. 859. ♀ juv., Marmellos, 24. xii. 1907.—Wing 62 ; tail 44 ; bill 11½ mm. "Iris red or yellowish red, feet black, plumbeous (720, 859), bill black."

This beautiful bird has recently been recorded from various localities in Amazonia. Mr. Hoffmanns secured a couple at Teffé ; † Mr. E. Garbe a female on the banks of the Rio Juruá ; ‡ the Pará Museum received several examples from the Upper Purús ; § and Miss Snethlage met with it on the island of Goyana in the Tapajóz.‖

[31. **Dacnis bicolor** (Vieill.).

Sylvia bicolor Vieillot, *Ois. Amér. Sept.* ii. p. 32. pl. 90 bis (1807.—" très rarement sous la zone boréale et plus communément entre les tropiques."—We substitute *Cayenne* as type locality. Type in Paris Museum examined).
Dendroeca bicolor Pelzeln, *l.c.* p. 71 (Rio Madeira).

Rio Madeira, November 1829 (Natterer).

Natterer's specimens are not different from others obtained in Venezuela and Bahia. It may be mentioned that the two birds registered by Pelzeln s.n. "*Nemosia spec.*"¶ are young males of the present species.]

* In *Nov. Zool.* xii. 1905, p. 271, I employed the term *melanotis* for the Brazilian race, under the erroneous assumption that *D. angelica* had been based on Colombian specimens. However, *D. melanotis* Strickl. is apparently a synonym of *D. angelica*, while the western form is entitled to the name *arcangelica* Bonap.

† *Nov. Zool.* xiv. p. 42.

‡ *Revist. Mus. Paul.* vi. p. 432.

§ *Journ. f. Orn.* 1908. p. 9.

‖ *L.c.* p. 498.

¶ *Orn. Bras.* iii. p. 215 (Cajutúba near Pará).

32. **Cyanerpes caerulea cherriei** Berl. & Hart.

[*Certhia caerulea* Linnaeus, *Syst. Nat.* x. p. 118 (1758.—ex Edwards : Surinam).]
Cyanerpes caerulea cherriei Berlepsch & Hartert, *Nov. Zool.* ix. p. 16 (1902.—Munduapo, Orinoco) ; Hellmayr, *l.c.* xiv. p. 347 (Humaytha).
Caereba caerulea Pelzeln, *l.c.* p. 25 (Salto do Girao).

No. 566. ♂ ad., Jamarysinho, 16. ix. 1907.—Wing 54 ; tail 25 mm.

No. 609. ♀ ad., S. Isabel, 2. x. 1907.—Wing 54 ; tail 27 ; bill 16 mm.

Cf. *Nov. Zool.* xiv. pp. 42–43, where characters and range of this form are given.

[33. **Chlorophanes spiza** (Linn.) subsp.

Motacilla spiza Linnaeus, *Syst. Nat.* x. p. 188 (1758.—ex Edwards : Surinam ; excl. var. β).
Dacnis atricapilla Pelzeln, *l.c.* p. 26 (Engenho do Gama, Guaporé ; Salto Girao).

Rio Madeira : Salto do Girao (Natterer).

I have not seen specimens from the Rio Madeira. They possibly belong to *C. s. caerulescens* Cass.*]

34. **Procnias viridis occidentalis** Scl.

[*Hirundo viridis* Illiger, *Prodr. Syst. Mam. et Av.* p. 229 (1811.—based on "L'Hirondelle verte' Temminck, *Cat. Syst. Cab. d'Orn. et Quadrum.* 1807. p. 245. No. 986 : Brasilia ; = ♀) ; cf. Allen, *Bull. Amer. Mus. N. Y.* ii. 1889. p. 70.]
Procnias occidentalis Sclater, *Proc. Zool. Soc. Lond.* xxii. 1854. p. 249 (April 1855.—"Nova Grenada").

Nos. 603, 627, 654, 655, 660. ♂♂ ad., S. Isabel, Rio Preto, 2, 5, 9, 10. x. 1907.—Wing 82—84, (one) 89 ; tail 49—55 ; bill 9—10 mm.

Nos. 677, 659. ♂♂ juv., S. Isabel, 10, 11. x. 1907.

No. 920. ♂ juv., Maruins, 9. vi. 1908.

Nos. 605, 653, 704. ♀♀ ad., S. Isabel, 2, 9, 16. x. 1907.—Wing 82—85 ; tail 53—55 mm.

No. 913. ♀ ad., Maruins, 7. vi. 1908.—Wing 85 ; tail 55 mm.

"Iris brown or reddish brown, feet dark grey or blackish, bill black."

The specimens agree, in coloration and size, with a large series from Colombia (Bogotá and Chocó), Ecuador, and Venezuela (Cumaná). Examples from Eastern Brazil (Bahia and Rio) are much larger (wing 90—95, tail 58—62 mm.) and of a lighter, more greenish (Nile) blue. The latter undoubtedly represent typical *P. viridis viridis*. To my mind, *P. v. occidentalis* is a very well-marked race, though occasionally specimens may be found that do not differ in colour from the typical race. The difference in size, however, is quite constant.

35. **Euphonia aurea aurea** (Pall.) [an subsp. ?].

Parus aureus Pallas in Vroeg's *Catalogue, Adumbrat.* p. 4 (1764.—Surinam).
Tanagra chlorotica Linnaeus, *Syst. Nat.* xii. 1. p. 317 (1766.—ex Brisson : "Cayania").

No. 1052. ♂ ad., Maruins, Rio Machados, 22. vii. 1908. "Iris, feet, and bill black."—Wing 55 ; tail 30½ ; bill 8 mm.

Differs from Cayenne skins in the Munich Museum by its much darker, deep bluish black (instead of bright purple) throat ; the yellow on the anterior portion of the crown is rather more extended, the bill somewhat thicker and stouter, and the outermost rectrix only (instead of the two other ones) has a white spot on the inner web. A large series from different parts of its range is required to establish the

* *Chlorophanes caerulescens* Cassin, *Proc. Acad. N. Sci. Philad.* 1864. p. 268 (Yuracares, Bolivia).

geographic races of *E. aurea*, which are far from being satisfactorily understood. Cf. my remarks in *Nov. Zool.* xiv. 1907, p. 6, and *l.c.* xv. 1908, p. 26.

This is the first record from the Madeira district, since the birds enumerated under *E. chlorotica* by Pelzeln turned out to belong to *E. chrysopasta* Scl. & Salv.

[36. **Euphonia violacea lichtensteinii** (Cab.).

[*Fringilla violacea* Linnaeus, *Syst. Nat.* x. p. 182 (1758.—"in calidis regionibus").]
Phonasca Lichtensteinii Cabanis, *Journ. f. Ornith.* 1860. p. 331 (1860.—Cayenne).
Euphona Lichtensteinii Pelzeln, *Zur Orn. Bras.* p. 204 (Borba).

Right bank : Borba (Natterer). Not obtained by Mr. Hoffmanns.

Miss Snethlage has lately met with it on the Tapajóz : Goyana, Ilha do Papageio.*]

37. **Euphonia laniirostris laniirostris** Lafr. & D'Orb.

Euphonia laniirostris Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 30 (1837.—Yuracares, Bolivia) ; Hellmayr, *Nov. Zool.* xiv. p. 347 (Humaytha).

Nos. 172, 552. ♂♂ ad., Calama, 6. vii., Jamarysinho, 14. ix. 1907.—Wing 62, 63½ ; tail 35, 36 ; bill 9 mm.

Nos. 3, 95, 173. ♀♀ ad., Calama, 8, 22. vi., 6. vii. 1907.—Wing 58—60 ; tail 33—34 ; bill 8—9 mm.

No. 903. ♀ ad., Maruins, 4. vi. 1908.—Wing 61 ; tail 35 ; bill 9 mm.

"Iris dark brown or blackish, feet black or plumbeous, bill black."

The males, while fully corroborating the distinctness of *E. laniirostris*, differ from the type and Natterer's Mattogrosso examples by having the chin-angle narrowly bordered with blackish. The females agree, in coloration, with *E. crassirostris* Scl., from Colombia, Venezuela, etc., but have a much thicker, wider bill. Two (Nos. 3 and 173) have, on the upper surface here and there, especially on the occiput, a distinct slaty or oily gloss. The range of *E. l. laniirostris* is restricted to the Rio Madeira (Humaytha, Calama, etc.), Western Mattogrosso (Villa Maria, São Vicente, Villa Bella, Abrilongo, Chapada), and Northern Bolivia (Yuracares). In Central Peru it is replaced by the nearly allied *E. laniirostris peruviana* Berl. & Stolzm.†

[38. **Euphonia melanura** Scl.

Cf. *Nov. Zool.* xiv. p. 347 (Borba).

Right bank : Borba (Hoffmanns). Not secured on the present occasion.

E. melanura differs from the preceding species by its even (not emarginate) and entirely black tail. In *E. laniirostris* the outermost rectrix (and sometimes also the succeeding one) shows a large white patch on the inner web.

E. melanura is widely distributed in Upper Amazonia.]

39. **Euphonia rufiventris** (Vieill.).

Tanagra rufiventris Vieillot, *Nouv. Dict.* xxxii. p. 426 (1819.—loc. ign. : "type au Muséum d'Histoire Naturelle,—rapporté par Sonnerat").

Nos. 229, 153. ♂♀ ad., Calama, 2, 16. vii. 1907. "Iris brown, feet and bill black."—Wing 61 ; tail 35 ; bill 9—10 mm.

Agreeing with specimens from Eastern Ecuador. For the first time recorded from the Rio Madeira, though widely distributed in Upper Amazonia.

* *Journ. f. Ornith.* 1908. p. 498.
† *Ornis* xiii. pt. ii. 1906. p. 77 (type ex La Merced).

[40. **Euphonia chrysopasta** Scl. & Salv.

Euphonia chrysopasta Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1869. p. 438. pl. xxx. figs. 1, 2 (♂ ♀) (1869.—"in Peruvia orientali in ripis fl. Ucayali (Bartlett); et in ripis fl. Napo, reipubl. Aequatorialis").
Euphona chlorotica (errore) Pelzeln, *l.c.* p. 202 (Salto do Girao, Manáos).

Rio Madeira: Salto do Girao (Natterer).

Pelzeln mistook the examples of this species obtained by Natterer for the young (and female) of *E. chlorotica*. *E. chrysopasta* has a wide range in Amazonia, but in Brazil does not seem to occur east of the Madeira Valley. The single female from Salto do Girao in the Vienna Museum is slightly more yellowish green on the back than a series from Bogotá, Manáos, and Venezuela (Caura). In size (wing 56; tail 36 mm.) it agrees with Bogotá skins.]

41. **Calospiza chilensis** (Vigors).

Aglaïa Chilensis Vigors, *Proc. Comm. Zool. Soc. Lond.* ii. 1832. p. 3 (1832.—"Chili" errore! We substitute *Bolivia* as type locality).
Calliste yeni auct.

No. 211. ♂ ad., Calama, 12. vii. 1907. "Iris, feet, and bill black."—Wing 75; tail 54; bill 9½ mm.

Agreeing with examples from Bolivia and Eastern Ecuador (Rio Napo). First record from the Rio Madeira, although Natterer had obtained an immature male at Engenho do Gama, Rio Guaporé, July 30, 1826.* *C. chilensis* agrees with *C. paradisea coelicolor* (Scl.)† in size, extent of golden green about the head, and coloration of the upper wing-coverts, but differs by having the lower back and rump deep scarlet without any yellow. Its distribution is rather curious, for it appears to cross the range of *C. paradisea coelicolor*.

[42. **Calospiza cayana cayana** (Linn.).

Cf. Hellmayr, *Nov. Zool.* xiv. p. 347 (Humaytha).

Left bank: Humaytha (Hoffmanns).]

43. **Calospiza albertinae** (Pelz.).

Calliste albertinae Pelzeln, *Ibis* 1877. p. 337 (1877.—Salto do Girao, Rio Madeira).
C. gyroloides (nec Lafresnaye) Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 207 (part.: Salto do Girao).
Calospiza albertinae Hellmayr, *Nov. Zool.* xii. p. 273 (Igarapé-Assú, Pará); idem, *l.c.* xiii. p. 357 Prata, Pará); Snethlage, *Journ. f. Ornith.* 1908. p. 522 (Alcobaça, Tocantins; descr. ♀).

No. 1060. ♂ ad., Maruins, 30. vii. 1908. "Iris brown, feet and bill bluish black."—Wing 71; tail 45; bill 10¾ mm. (Munich Museum.)

This is the first perfectly adult specimen I have seen, both the type (from Salto do Girao) and the two males from Prata, Pará, being slightly immature. It proves that in fully adult males the throat is dull bluish as in *C. gyroloides* (Lafr.), but *C. albertinae* can, of course, easily be recognized by its more yellowish green back and its orange-rufous shoulder-spot. The species evidently has a wide range in Brazil south of the Amazon Valley. Natterer and Hoffmanns obtained it on the Rio Madeira, the latter naturalist as well as Robert met with it at Prata near Pará, and Miss Snethlage took a couple at Alcobaça, on the left bank of the Tocantins.

* *C. yeni* Pelzeln, *Zur Orn. Bras.* iii. p. 206.
† *Calliste tatao* auct.

44. **Calospiza mexicana boliviana** Bonap.

[*Tanagra mexicana* Linnaeus, *Syst. Nat.* xii. 1. p. 315 (1766.—ex. Brisson : Cayana).]
Callospiza boliviana Bonaparte, *C. R. Ac. Sci. Paris* xxxii. p. 80 (1851.—Guarajos, East Bolivia).
Calospiza mexicana boliviana Hellmayr, *Nov. Zool.* xiv. p. 348 (Borba).
Calliste flaviventris (nec Vieillot) Pelzeln, *l.c.* p. 207 (Guaporé, Borba).

Nos. 341, 429. ♀ ♀ ad., Calama, 6, 19. viii. 1907.—Wing 71, 69½; tail 52; bill 9 mm.

No. 696. ♂ ad., S. Isabel, Rio Preto, 14. x. 1907.—Wing 74; tail 52; bill 9⅓ mm.

No. 657. ♀ ad., S. Isabel, 9. x. 1907.—Wing 70½; tail 50; bill 9⅓ mm.

No. 821. ♂ juv., Marmellos (right bank), 17. xii. 1907.—Wing 69; tail 49; bill 9 mm.

"Iris brown, feet and bill black."

Belly deep yellow, shoulder-patch uniform azure-blue, exactly as in specimens from Peru, Ecuador, and Bogotá collections. Sometimes a few of the innermost lesser wing-coverts are narrowly edged with turquoise-blue. Cf. also *Nov. Zool.* xiv. p. 7. *C. m. boliviana* ranges eastwards as far as Pará.

[45. **Calospiza nigrocincta** (Bonap.).

Cf. *Nov. Zool.* xiv. p. 348 (Humaytha).

Left bank : Humaytha (Hoffmanns).

Though occurring in Venezuela (Orinoco-Caura district), British Guiana, and widely distributed in Upper Amazonia, this species has not been recorded from any Brazilian locality east of the Madeira Valley.]

46. **Tanagra episcopus coelestis** Spix.

[*Tanagra Episcopus* Linnaeus, *Syst. Nat.* xii. 1. p. 316 (1766.—ex Brisson : "Brésil").]
T. coelestis Spix, *Av. Bras.* ii. p. 42. pl. lv. fig. 2. (1825.—Fonteboa, Rio Solimões, fixed as type locality ; cf. my revision of Spix's types, p. 676).
T. episcopus coelestis Hellmayr, *Nov. Zool.* xiv. p. 348 (Borba).
T. episcopus Pelzeln, *l.c.* p. 208 (part. : Borba).

No. 347. ♂ ad., Calama, 7. viii. 1907.—Wing 91 ; tail 66 ; bill 13½ mm.
"Iris brown, bill and feet black."
Agrees with the type and other Upper Amazonian specimens.

47. **Tanagra palmarum melanoptera** Scl.

[*Tanagra palmarum* Wied, *Reise Brasil.* ii. p. 76 (1821.—Canavieras, Bahia).]
T. melanoptera (Hartlaub MS.) Sclater, *Proc. Zool. Soc. Lond.* xxiv. 1856. p. 235 (January 1857.—Eastern Peru, etc.).

Nos. 295, 477. ♂ ♂ ad., Calama, 29. vii., 28. viii. 1907. "Iris brown, feet and bill black."—Wing 94, 98 ; tail 70, 72 ; bill 13½, 14 mm.

One of these specimens is typical of *melanoptera*, having mere traces of dark olive-grey edges to some of the outer primaries, exactly like examples from the Caura Valley, Trinidad, etc., in the Munich Museum. The other (No. 295) slightly points towards *T. p. palmarum* of Eastern Brazil, though the greenish edges of the remiges are duller and less distinct than in the latter. Birds from the vicinity of Pará, however, agree in coloration with the typical race, but are smaller. Cf. *Nov. Zool.* xii. pp. 273–4.

48. **Ramphocelus nigrogularis** (Spix).

Tanagra nigrogularis Spix, *Av. Bras.* ii. p. 35. pl. xlvii. (1825.—"ad flumen Solimoëns in sylvis pagi *St. Pauli*").
Ramphocelus nigrigularis Pelzeln, *l.c.* p. 210 (Borba).

No. 742. ♂ imm., Allianca, 1. xi. 1907.—Wing 84; tail 77; bill 14 mm.

"Iris brown, feet black, bill black, base of lower mandible white."

Miss Snethlage * has recently obtained specimens at Cussary, south bank of the Amazons, opposite Monte Alegre, the most easterly locality as yet known.

49. **Ramphocelus carbo carbo** (Pall.).

Lanius (*Carbo*) Pallas in Vroeg's *Catal. rais., Adumbrat.* p. 2 (1764.—Surinam).
Ramphocelus albirostris Pelzeln, *l.c.* p. 210 (Ribeirao).
R. jacapa auct.

No. 418. ♂ ad., Calama, 18. viii. 1907—Wing 80; tail 77; bill 15 mm.
Nos. 606, 687. ♀ ♀ ad., S. Isabel, 2, 12. x. 1907.
No. 424. ♀ juv., Calama, 18. viii. 1907.

"Iris brown, feet and bill black."

Identical with topotypical specimens from Surinam and others from Cayenne, etc.

A nest taken October 12, 1907, at S. Isabel with the parent bird (No. 687) is a fairly compact structure of dry leaves, twigs, roots and stems of various plants, and has no other lining, except that the material is finer in the middle. The cup is about 50 mm. deep and 70 mm. across. The eggs are light greenish blue with black points and spots, crowded around the larger end. They measure from 21 to 22 by 16 to 17 mm.

50. **Piranga rubra rubra** (Linn.).

Fringilla rubra Linnaeus, *Syst. Nat.* x. p. 181 (1758.—based on Catesby, *Nat. Hist. Carolina, etc.* i. p. 56. pl. 56: *Carolina*, Virginia).
Tanagra aestiva Gmelin, *Syst. Nat.* 1. ii. p. 889 (1789.—based on the same).
Piranga aestiva auct. brit.

No. 799. ♀ ad., Allianca, 22. xi. 1907. "Iris brown, feet plumbeous, bill yellowish grey."—Wing 92; tail 72; bill 17 mm.

Practically identical with specimens from Eastern United States, Colombia, etc. Apparently the first record from Brazil, although the bird is a common winter visitor in the northern parts of South America.

51. **Lanio versicolor** (Lafr. & D'Orb.).

Tachyphonus versicolor Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 28 (1837.—Yuracares, Bolivia).
Lanio versicolor Hellmayr, *Nov. Zool.* xiv. p. 349 (Humaytha).

No. 766. ♂ ad., Allianca, 8. xi. 1907. "Iris brown, feet and bill black."—Wing 82; tail 68; bill 13½ mm.

Within Brazilian limits, the species is as yet only known to occur in the Madeira Valley.

* *Journ. f. Orn.* 1907. p. 294.

52. **Phoenicothraupis rubra peruviana** Tacz.

[*Tachyphonus ruber* Vieillot, *Nouv. Dict.* xxxii. p. 359 (1819.—"île de la Trinité").]
Phoenicothraupis peruvianus Taczanowski, *Orn. Pérou* ii. p. 498 (1884.—Peru: Yurimaguas and Monterico).
P. rubra peruviana Hellmayr, *Nov. Zool.* xiv. p. 348 (Humaytha).
P. rubra (nec Vieillot) Pelzeln, *l.c.* p. 212 (Borba).

No. 203. ♂ imm., Calama, 10. vii. 1907.—Wing 93; tail 82; bill 17½ mm.

Nos. 34, 122. ♀♀, Calama, 13, 28. vi. 1907.—Wing 87, 82; tail 77, 74; bill 16 mm.

"Iris brown or greyish brown, feet brown or yellowish grey, bill greyish, darker above."

In *Nov. Zool.* xiv. p. 44, I have given a *résumé* of the ranges and characters of *P. r. peruviana* and its allies, to which I have nothing to add.

53. **Tachyphonus luctuosus** Lafr. & D'Orb.

Tachyphonus luctuosus Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 29 (1837.—Guarayos, Bolivia); Pelzeln, *Zur Orn. Bras.* iii. p. 213 (Salto Girao, Borba); Hellmayr, *Nov. Zool.* xiv. p. 349 (Humaytha, Borba *).

Nos. 210, 423, 475. ♂♂ ad., Calama, 12. vii., 18, 28. viii. 1907.—Wing 60—61; tail 50—53; bill 11—12 mm.

No. 895. ♂ ad., Maruins, 1. vi. 1907.—Wing 62; tail 54; bill 11 mm.

Nos. 225, 398, 466. ♀♀ ad., Calama, 15. vii., 15, 27. viii. 1907.—Wing 57—58½; tail 50—54; bill 11—12 mm.

No. 752. ♀ juv., Allianca, 6. xi. 1907.—Wing 58; tail 54; bill 12 mm.

Absolutely identical with topotypical Bolivian examples. The young female differs from the adult ones by having the cap washed with olive-greenish, the sides of the head dull brownish instead of cinereous, the under parts of a deeper, more buffy yellow, and the throat tinged with yellowish.

[54. **Tachyphonus phoenicius** Swains.

Tachyphonus phoenicius Swainson, *Anim. in Menag.* p. 311 (1838.—loc. ign., hab. substit. East Peru, aut. Berlepsch).
T. phoeniceus Pelzeln, *Zur Orn. Bras.* iii. p. 214 (Borba).

Right bank: Borba (Natterer). Apparently of wide distribution in Amazonia, being recorded from British Guiana and Eastern Peru.

Natterer's specimens from Borba agree well with others from Guiana.]

[55. **Tachyphonus surinamus insignis** Hellm.

[*Turdus surinamus* Linnaeus, *Syst. Nat.* xii. 1. p. 297 (1766.—ex Brisson: Surinam).]
Tachyphonus surinamus insignis Hellmayr, *Nov. Zool.* xiii. p. 357 (1906.—Bemfica, Pará).
T. surinamus Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 213 (part.: Pará, Borba); Snethlage, *Journ. f. Orn.* 1907. p. 295 (Pará, Rio Macujubim, S. Antonio do Prata).

Right bank: Borba (Natterer).

Dr. Lorenz has kindly sent for my inspection the three adult males obtained by Natterer. One is practically identical with topotypical Pará examples, while the two others have the ochreous patch on the sides of the chest even darker and more decidedly mixed with ferruginous.

T. s. insignis is hitherto only known from the Pará district, and from Borba,

* The latter locality inadvertently omitted.

lower Rio Madeira. North of the Amazons, near Manáos, it is represented by *T. s. surinamus*, while farther up, in the vicinity of Teffé, and on the upper Rio Negro (Marabitanas, Rio Içanna) another closely allied race, *T. s. napensis*, takes its place. Cf. *Nov. Zool.* xiii. pp. 357–8.]

56. **Tachyphonus cristatus madeirae** n. subsp.

[*Tanagra cristata* Linnaeus, *Syst. Nat.* xii. 1. p. 317 (1766.—ex Brisson : Cayenne).]
Tachyphonus cristatus (nec Linnaeus) Pelzeln, *Zur Orn. Bras.* iii. p. 213 (part. : Engenho do Gama, Rio Guaporé ; Borba, r. Madeira).
T. cristatus subsp. Hellmayr, *Nov. Zool.* xiv. p. 349 (Humaytha).

Nos. 209, 249, 329, 386, 483. ♂♂ ad., Calama, 12, 22. vii., 2, 12, 29. viii. 1907.—Wing 79—83 ; tail 70—77 ; bill 12½—14 mm. "Iris brown, feet and bill black."

♂ ad. Nearest to, and agreeing with, *T. cristatus brunneus* (Spix), of Eastern Brazil (from Pará to S. Paulo), in having the crest deep fiery or vermilion-red and bordered in front only by a rather narrow, bright buff line, but crest-feathers much shorter—scarcely longer than in *T. c. cristatus*, from Cayenne, etc.—and whole throat, except a small blackish chin-spot, deep ochraceous buff.

♀ ad. Not different from that of *T. c. cristatus*.

Type in Tring Museum : ♂ ad., Calama, 2. viii. 1907 (W. Hoffmanns coll., No. 329).

Besides the above series, I have before me the adult male from Humaytha obtained on Mr. Hoffmanns' first trip to the Rio Madeira, and several examples, among them an adult female, belonging to the Vienna Museum (Natterer coll.). Compared with some thirty skins from Pará, Pernambuco, Bahia, and Rio de Janeiro, the Madeira birds have the crest invariably shorter and generally of a deeper fiery red. Even more strongly marked is the difference in the extent of the ochraceous gular spot. The Calama and Humaytha specimens have the whole throat, with the exception of a very small black chin-spot, deep ochraceous buff, while in *T. c. brunneus* there is but a broad stripe of a clearer buff along the middle of the throat, the sides of the latter, as well as a large patch on the chin, being dull black like the remainder of the lower parts. *T. c. cristatus* (and the doubtfully distinct *T. c. cristatellus*) may be distinguished from the new form by their smaller gular spot, and particularly by the much lighter, orange-red crest, bordered in front and laterally by a broad, creamy buff margin.

T. c. madeirae appears to be restricted to the Madeira Valley and its headwaters, Guaporé, etc. ; for specimens from the Rio Negro (Barcellos, Marabitanas) and Northern Peru (Loretoyacu, Peru) agree in every respect with Bogotá skins (so-called *cristatellus*).*

57. **Eucometis penicillata penicillata** (Spix).

Tanagra penicillata Spix, *Av. Bras.* ii. p. 36. pl. xlix. fig. 1 (1825.—no locality ; type examined).
Eucometis penicillata Pelzeln, *Zur Orn. Bras.* iii. p. 212 (Borba) ; Hellmayr, *Nov. Zool.* xiv. p. 349 (Humaytha).

Nos. 413, 414. ♂ imm., ♂ juv., Calama (island), 17. viii. 1907. "Iris greyish brown, feet pale greyish yellow, bill black."—Wing 85, 82 ; tail 82 ; bill 15½, 16 mm.

* The supposed female of *Tachyphonus nattereri* Pelz. (*l.c.* p. 328 : ♂ ad. Villa Maria, Rio Paraguay) was secured at Salto do Girao by Natterer. It is, however, doubtful whether it really belongs to *T. nattereri*, and the question must be left in abeyance until adult males from that locality come to hand.

Adult birds from the Rio Madeira agree with the type in the Munich Museum. The two young ones from Calama have the bill blackish, and, like Peruvian examples, the legs and feet pale fleshy brown. Cf. my remarks, *l.c.*, pp. 349–50.

[58. **Cypsnagra ruficollis pallidigula** Hellm.

Cf. *Nov. Zool.* xiv. p. 350 (Humaytha).

Left bank: campos of Humaytha (Hoffmanns). Also occurring in Ceará, N.E. Brazil.]

59. **Nemosia pileata** (Bodd.).

Tanagra pileata Boddaert, *Tabl. Pl. col.* p. 45 (1783.—ex D'Aubenton, Pl. enl. 720. fig. 2 = ♂ ad. : Cayenne).

Nos. 826, 828, 834. ♂♂ ad., Marmellos, 18, 19, 20. xii. 1907. "Iris and feet yellow, bill black."—Wing 67—70; tail 45½—49; bill 12 mm.

Nos. 827, 829. ♂♂ imm., Marmellos, 18, 19. xii. 1907. "Iris and feet yellow, bill black, lower mandible yellowish grey."

No. 819. ♀ ad., Marmellos, 17. xii. 1907. "Bill black, below yellowish grey."—Wing 64; tail 43; bill 11½ mm.

Rather brighter on the upper parts, but not otherwise different from Bahia specimens.

N. pileata, though widely distributed in Amazonia and Brazil, is very localized, frequenting exclusively the "campos" districts. First record from the Rio Madeira.

60. **Hemithraupis flavicollis centralis** (Hellm.).

[*Nemosia flavicollis* Vieillot, *Nouv. Dict.* xxii. p. 491 (1818.—"l'Amérique méridionale").]
Nemosia flavicollis centralis Hellmayr, *Nov. Zool.* xiv. p. 350 (1907.—Humaytha, Rio Madeira).
N. flavicollis (nec Vieillot) Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 215 (Engenho do Gama).

No. 886. ♀ ad., Calama, 30. iii. 1908. "Iris brown, feet grey, bill bluish grey, below paler."—Wing 65; tail 52; bill 13 mm.

On his first expedition to the Rio Madeira, in 1906, Mr. Hoffmanns obtained an adult male, the type, at Humaytha, left bank. In the male sex, *H. f. centralis* differs at a glance from all the other races of the *flavicollis* group by the deep velvety black coloration of the upper parts. The female may be distinguished by its darker, dull olive upper parts, and rather brighter yellow belly. In size and in the large, rather strong bill it resembles the female of *H. f. melanoxantha*.

A review of the various geographic races is given in *Nov. Zool.* xiv. pp. 350–53. *H. f. centralis* inhabits the basin of the Madeira and its tributaries.

61. **Thlypopsis sordida amazonum** Scl. (?).

[*Nemosia sordida* Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 28 (1837.—Yuracares, rep. Boliviana—type examined; cf. *Nov. Zool.* xiii. pp. 310-11).]
Thlypopsis amazonum Sclater, *Cat. Birds Brit. Mus.* xi. p. 229 (1886.—Lower Ucayali, East Peru).
Nemosia fulvescens Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 215 (pt.: Rio Madeira).*

No. 901. ♂ fere ad., Maruins, 3. vi. 1908. "Iris dark greyish brown, feet plumbeous, bill blackish, below grey."—Wing 64; tail 51; bill 11½ mm.

This specimen differs from an adult male in Count Berlepsch's collection

* Erroneously included among the localities of *N. s. sordida* in *Nov. Zool.* xiii. p. 311.—Natterer's specimen is no longer in the Vienna Museum.

(La Merced, Chanchamayo ; Kalinowski leg.) by its much smaller size, shorter as well as deeper bill, and by having the sides slightly more brownish grey, less purely cinereous. From *N. s. sordida* the Maruins bird may be distinguished by the dull brownish grey (instead of deep buff or ochraceous buff) sides and flanks, white (not deep buff) under tail-coverts, more olive-grey (less greenish) upper parts, etc.

Additional material is required to establish the status of the Madeira form.

62. **Arremon silens** (Bodd.).

Tanagra silens Boddaert, *Tabl. Pl. enl.* p. 46 (1783.—ex D'Aubenton, Pl. enl. 742 : Cayenne).

No. 790. ♂ juv., Allianca, 16. xi. 1907.—Wing 72 ; tail 59 ; bill 13 mm.
No. 579. ♀ ad., Jamarysinho, 21. ix. 1907.—Wing 71 ; tail 56 ; bill 13½ mm.
" Iris brown, feet yellowish grey (light grey), bill black."
Agreeing, in size and coloration, with Pará examples.

63. **Saltator maximus** (P. L. S. Müll.).

Tanagra maxima P. L. S. Müller, *Natursyst.* Suppl. p. 159 (1776.—ex D'Aubenton, Pl. enl. 205 : Cayenne).
Saltator magnus auct.

No. 707. ♀ ad., S. Isabel, Rio Preto, 16. x. 1907.
" Iris brown, feet grey, bill black."

64. **Saltator coerulescens azarae** D'Orb.

[*Saltator coerulescens* Vieillot, *Nouv. Dict.* xiv. p. 105 (1817.—ex Azara, no. 81 : Paraguay).]
Saltator Azarae D'Orbigny, *Voyage Amér. mérid., Oiseaux*, p. 287 (betw. 1838 and 1847, part. : Moxos, Eastern Bolivia ; cf. Hellmayr, *Nov. Zool.* xiii. 1906. pp. 314-5) ; Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 219 (part. : Borba).

No. 1071. ♀ ad., Calama, 10. ix. 1908. " Iris brown, feet grey, bill black."—Wing 99 ; tail 88 ; bill 18½ mm.

Agrees with Peruvian specimens. The upper parts and sides of the head are very dark slate-grey, the outer webs of the remiges scarcely paler ; the foreneck and breast dingy cinereous, passing into buff in the middle of the abdomen ; the lower tail-coverts deep ochraceous.

S. c. azarae inhabits North-Eastern Bolivia (Moxos), Brazilian Amazonia from the Madeira Valley westwards, Peru, Eastern Ecuador, etc. Farther to the south, on the Rio Guaporé (Villa Bella de Mattogrosso), etc., the typical race, *S. c. coerulescens*, is met with ; while in North-Eastern Brazil (Marajó, Mexiana, Amapá) another close ally, *S. c. mutus* Scl., takes its place. Cf. *Nov. Zool.* xiii pp. 314–15.

[65. **Schistochlamys atra** (Gm.).

Cf. *Nov. Zool.* xiv. p. 353 (Humaytha).

Left bank : Humaytha (Hoffmanns).
Widely distributed in South America.]

66. **Pitylus grossus** (Linn.).

Loxia grossa Linnaeus, *Syst. Nat.* xii. 1. p. 307 (1766.—" America " : ex Brisson ; we substitute *Cayenne* as type locality).
Pitylus grossus Pelzeln, *l.c.* p. 220 (Borba).

Nos. 75, 337. ♂♂ ad., Calama, 19. vi., 5. viii. 1907. " Iris brownish, feet black, bill bright red."—Wing 98, 96 ; tail 90 mm.

Nos. 145, 338. ♀, ♀ juv., Calama, 1. vii., 5. viii. 1907. "Iris brown, feet black, bill light red."

[67. **Pitylus canadensis canadensis** (Linn.).

Loxia canadensis Linnaeus, *Syst. Nat.* xii. 1. p. 304 (1766.—ex Brisson : "Canada," errore! We substitute *Cayenne* as type locality).
Pitylus cayanensis Pelzeln, *l.c.* p. 221 (Borba).

Right bank : Borba (Natterer).

The range of this form extends, in the east, to Pará, and to the north as far as Cayenne, British Guiana, and Marabitanas (upper Rio Negro). In North-East Brazil (Pernambuco) it is represented by *P. c. frontalis* Hellm.,* in South-Eastern Brazil (from Bahia to Rio de Janeiro) by *P. c. brasiliensis* (Cab.).†]

[68. **Cyanocompsa rothschildii** (Bartl.).

Guiraca rothschildii E. Bartlett, *Ann. & Mag. Nat. Hist.* (6) vi. p. 168 (1890.—R. Carimang, British Guiana) ; cf. Hellmayr, *Nov. Zool.* xii. 1905. p. 277 (crit.).
G. cyanoides (nec Lafresnaye) Pelzeln, *Zur Orn. Bras.* iii. p. 222 (Salto Girao, Borba).
G. cyanea Sharpe, *Cat. Birds B. Mus.* xii. p. 71 (part. : specimens s—a^1, e^1—i^1).

Rio Madeira : Salto Girao, Borba (Natterer).

Natterer's specimens from the Rio Madeira, as well as those obtained near Engenho do Gama, Rio Guaporé, and at Marabitanas, upper Rio Negro, agree perfectly with typical Guianan birds. All records of *C. cyanea* from Amazonia and the Guianas refer to the present species, which is the only one found in those regions. I have examined examples from Cayenne, Brit. Guiana, Pará, Orinoco (Munduapo, Caura), Teffé, North Peru (Samiria, Nauta, etc.), Rio Negro, Rio Madeira, etc. *C. cyanea* (Linn.) is restricted to Eastern Brazil, south of Pernambuco.]

69. **Oryzoborus angolensis brevirostris** Berl.

[*Loxia angolensis* Linnaeus, *Syst. Nat.* xii. 1. p. 303 (1766.—ex Edwards : "Angola"—errore! We substitute *East Brazil* as type locality).]
Oryzoborus angolensis brevirostris Berlepsch, *Nov. Zool.* xv. p. 119 (1908.—Cayenne).

Nos. 643, 669, 695. ♂♂ ad., S. Isabel, Rio Preto, 8, 10, 14. x. 1907. "Iris brown, feet and bill black."—Wing 59 ; tail 55, 56 mm.

The specimens agree with others from Cayenne, Trinidad, and Eastern Ecuador (Napo). East Brazilian skins (Bahia, Rio de Janeiro) have larger, stouter bills, the lower parts of a clearer chestnut, and the alar speculum rather more extended.

70. **Sporophila lineola** (Linn.).

Loxia lineola Linnaeus, *Syst. Nat.* xii. 1. p. 304 (1766.—"Asia"—errore! We substitute *Surinam* as type locality ; cf. *Nov. Zool.* ix. p. 26).

Nos. 737, 738. ♂♂ ad., Calama, 30. x. 1907. "Iris, feet, and bill black."—Wing 60 ; tail 47 ; bill 8 mm.

Both with a broad white stripe along the middle of the forehead and crown, and with the under parts pure white, without trace of blackish cross-lines.

* *Nov. Zool.* xiii. p. 277 (1905.—São Lourenço, Pernambuco).
† *Caryothraustes brasiliensis* Cabanis, *Mus. Hein.* i. p. 144 (1851.—Bahia).

71. **Sporophila castaneiventris** Cab.

Sporophila castaneiventris Cabanis in Schomburgk, *Reisen Brit. Guiana* iii. p. 679 (1848.—Cumaka, coast of Brit. Guiana) ; Hellmayr, *Nov. Zool.* xiv. p. 353 (Humaytha).
Spermophila castaneiventris Pelzeln, *l.c.* p. 225 (Borba).

No. 833. ♂ ad., Marmellos, 19. xii. 1907. "Iris brown, feet and bill black."—Wing 50; tail 42 ; bill 8 mm.

Perfectly identical with specimens from French Guiana, collected by Monsieur Le Moult, in the Munich Museum.

[72. **Volatinia jacarina jacarina** (Linn.).

Cf. *Nov. Zool.* xiv. p. 353 (Humaytha).

Left bank : Humaytha (Hoffmanns).]

[73. **Myospiza manimbe** (Licht.).

Cf. *Nov. Zool.* xiv. p. 353 (Humaytha).

Left bank : Humaytha (Hoffmanns).

The single male, obtained on Mr. Hoffmann's first journey, agrees well with Bahia skins.]

[74. **Myospiza aurifrons** (Spix).

Tanagra aurifrons Spix, *Av. Bras.* ii. p. 38. pl. l. fig. 2 (1825.—"in provincia Bahia"—errore ! We substitute *Fonteboa*, Rio Solimoëns) ; Hellmayr, *Abhandl. Akad. Wissensch. München*, vol. xxii, 3, 1906. p. 673 (crit.).
Coturniculus peruanus Pelzeln, *l.c.* p. 230 (Borba).

Right bank : Borba (Natterer).

Widely distributed in Amazonia. *M. aurifrons* is evidently specifically distinct from the preceding form.]

[75. **Paroaria gularis gularis** (Linn.).

Tanagra gularis Linnaeus, *Syst. Nat.* xii. 1. p. 316 (1766.—ex Brisson : "America" ; we fix *Cayenne* as type locality).
Paroaria gularis Pelzeln, *l.c.* p. 228 (part. : Borba).

Right bank : Borba (Natterer).

Natterer's examples, for the loan of which I am indebted to Dr. Lorenz, of Vienna, agree well with others from Cayenne and Lower Amazonia ; perhaps they have not quite so much black round the eye.

Farther south, on the Rio Guaporé (Villa Bella de Mattogrosso), it is replaced by *P. g. cervicalis* Scl.,* which extends into Eastern Bolivia (Mojos, etc.). Cf. *Nov. Zool.* xiv. p. 10.]

76. **Ostinops viridis** (P. L. S. Müll.).

Oriolus viridis P. L. S. Müller, *Natursyst.* Suppl. p. 87 (1776.—based on D'Aubenton, Pl. enl. 328 : Cayenne).
Ostinops viridis Pelzeln, *l.c.* p. 192 (Borba).

Nos. 309, 570, 587. ♂♂ ad., Calama, 31. vii. 1907 ; Jamarysinho, 18, 24. ix. 1907. "Iris light blue, feet black, bill light yellowish green, apical half bright red."—Wing 250—265 ; tail 180—190 ; bill 63—67 mm.

* *Paroaria cervicalis* Sclater, *Cat. Coll. Amer. Birds*, p. 108 (1862.—Bolivia).

No. 287. (♀) Calama, 29. vii. 1907. "Iris grey-brown, bill pale grey, apical half yellowish red."—Wing 210 ; tail 145 ; bill 58 mm.

The specimens agree well with others from Cayenne and Eastern Ecuador.

77. **Gymnostinops yuracares** (Lafr. & D'Orb.).

Cassicus yuracares Lafresnaye & D'Orbigny, *Syn. Av.* ii. in *Mag. Zool.* cl. ii. p. 2 (1838.—Yuracares, rep. Boliviana).

Nos. 967, 968, 986, 987. ♂♂ ad., Maruins, 3, 9. vii. 1908.—Wing 255—273; tail 195—210 ; bill 74—77 mm.

Nos. 965, 969. ♀♀, Maruins, 30. vi., 3. vii. 1908.—Wing 205 ; tail 162, 167 ; bill 56, 57 mm.

"Iris brown, feet black, bill black, tip clear red or yellowish red ; bare space at base of lower mandible greyish pink or flesh-colour."

Specimens from the Rio Napo (Eastern Ecuador) in the Munich Museum are of a rather more yellowish tinge on the head, mantle, and throat.

78. **Cacicus cela cela** (Linn.).

Parus Cela Linnaeus, *Syst. Nat.* x. p. 191 (1758.—"in Indiis," errore ! We substitute *Surinam* ; cf. *Nov. Zool.* xiii. p. 20).

Cassicus persicus Pelzeln, *l.c.* p. 193 (Borba).

Nos. 502, —. ♂♂ ad., Calama, 1. ix. 1907; Marmellos (left bank), 21. xii. 1907.—Wing 157, 160; tail 108, 110 ; bill 36 mm.

Nos. 412, 736. ♀♀ ad., Calama, 17. viii., 30. x. 1907.—Wing 126, 122 ; tail 91, 85 ; bill 30 mm.

No. 411. Juv., Calama, 17. viii. 1907.

"Iris light blue, feet black, bill yellowish green."

The adult birds agree, in colour and size, with others from Cayenne, Venezuela, etc.

[79. **Cacicus haemorrhous** (Linn.) subsp.

Cf. *Nov. Zool.* xiv. 1907. p. 354 (Humaytha).

Left bank : Humaytha (Hoffmanns).

Unfortunately Mr. Hoffmanns did not obtain additional specimens on his second journey, and I am, consequently, still in doubt about its proper identification. The single adult male is much larger than either *C. haemorrhous* or *C. pachyrhynchus* Berl.*]

[80. **Dolichonyx oryzivora** (Linn.).

Emberiza Oryzivora Linnaeus, *Syst. Nat.* xii. 1. p. 311 (1766.—ex Catesby, Edwards, Brisson : Cuba, etc.).

Dolichonyx oryzivorus Pelzeln, *l.c.* p. 199 (Rio Madeira).

This North American migrant was secured by Natterer in November 1829, on the banks of the Rio Madeira.]

[81. **Molothrus bonariensis bonariensis** (Gm.).

Tanagra bonariensis Gmelin, *Syst. Nat.* 1. ii. p. 898 (1789.—based on D'Aubenton, Pl. enl. 710 : Bonaria).

Molothrus sericeus Pelzeln, *l.c.* p. 200 (Borba).

Right bank : Borba (Natterer).

The single adult male taken by Natterer, March 11, 1830, agrees in every

Journ. f. Ornith. 1889. p. 299 (type ex Tarapoto, Northern Peru).

respect with South Brazilian examples. The wing measures 112, the tail 89½, the bill 19½ mm. From *M. b. atronitens* Cab. (ex Pará, Guiana, Orinoco delta, etc.) it differs by its much larger size and stronger as well as longer bill; from *M. b. venezuelensis* Stone by its stouter bill and decidedly purple (not steel-blue) coloration.

Cf. *Abhandl. Bayer. Akad. Wissensch. II. Cl.* vol. xxii, 3, 1906. pp. 613–4.]

82. **Lampropsar tanagrinus tanagrinus** (Spix).

Icterus tanagrinus Spix, *Av. Bras.* i. p. 67. pl. lxiv. fig. 1 (1824.—"in locis sylvaticis Parae").
Lampropsar tanagrinus Pelzeln, *l.c.* p. 200 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 354 (Humaytha, Borba).

No. 1065. Immature, Manicoré, 24. viii. 1908. "Iris dark brown, feet and bill black."—Wing 100; tail 97; bill 19 mm.

Agrees with Spix's types, but somewhat less glossy. Cf. my remarks in *Abhandl. Bayer. Akad. Wissensch. II. Cl.* xxii. 3. pp. 615–6.

Farther to the south, on the Guaporé, the typical form is replaced by *L. t. violaceus* Hellm. (cf. *l.c.*).

83. **Leistes militaris** (Linn.).

Emberiza militaris Linnaeus, *Syst. Nat.* x. p. 178 (1758.—"in America, Asia"—as type locality fixed *Surinam*; cf. *Nov. Zool.* xiii. p. 21).
Leistes erythrothorax Pelzeln, *l.c.* pp. 197, 326 (Rio Madeira, Borba).

No. 914. ♂ ad., Marmins, 7. vi. 1908.—Wing 99; tail 66; bill 22½ mm.
No. 855. ♂ juv., Marmellos, 23. xii. 1907.
No. —. ♂ ad., S. Isabel, Rio Preto.—Wing 97; tail 64; bill 21¾ mm.
Nos. —, 836. ♀♀, S. Isabel, Sta. Maria de Marmellos, 20. xii. 1907.—Wing 87, 88; tail 57, 60; bill 20 mm.

"Iris brown, feet and bill black."

The specimens agree with others from Cayenne, Surinam, and Panamá. The bill is nearly black in the adult males, brown in the immature male and females. Cf. *Nov. Zool.* xiv. pp. 10–11.

[84. **Cyanocorax chrysops diesingii** Pelz.

[*Pica chrysops* Vieillot, *Nouv. Dict.* xxvi. p. 124 (1818.—ex Azara: Paraguay).]
Cyanocorax Diesingii Pelzeln, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) xx, 1, p. 164 (1856.—"Borba in Brasilia"); Pelzeln, *l.c.* iii. p. 189 (Borba).

Right bank: campos of Borba (Natterer).

The types, an adult male and a young female, are still the only specimens known of this well-marked form. I am greatly indebted to my friend Dr. von Lorenz, of Vienna, for the loan of these valuable objects. Compared with a good series of *C. c. chrysops* from Paraguay and Southern Brazil (S. Paulo), the adult bird differs in many important particulars. The feathers of the pileum are somewhat stiffer and much more elongated, the longest measuring fully 20 mm., so as to form a very distinct, erect crest; the wings are longer; the bill decidedly shorter; the yellowish white apical portion of the rectrices conspicuously shorter. The blue spots on the sides of the head are much more restricted; the supra-ocular spot is much smaller and uniform lilac-blue (not mixed with sky-blue), and in the malar region there is only a narrow streak of pale lilac-blue, while in *C. c. chrysops* the whole of the cheeks

and malar region is deep violet. The occiput and nape are uniform whitish blue. *C. c. chrysops* has the former only of that colour, which passes into bright violet on the hindneck. The adult male shows the following dimensions : wing 167 ; tail 163 ; bill 26½ mm. ; whereas nine adult birds of *C. c. chrysops* measure : wing 150—160 ; tail 160—170 ; bill 29—33 mm.]

85. **Ochthornis littoralis** (Pelz.).

Elainea littoralis Pelzeln, *Zur Orn. Bras.* ii. pp. 108, 180 (1868.—Cachoeira de Guajarágуaçu and Bananeira, on the Mamoré ; Borba, Rio Madeira).

No. 806. ♂ ad., Allianca, 29. xi. 1907.—Wing 74 ; tail (in moult) ; bill 13 mm.

No. 104. ♀ ad. (worn plumage), Calama, 25. vi. 1907.—Wing 69 ; tail 58 ; bill 12 mm.

"Iris brown, feet and bill black."

Specimens from the Caura Valley in the Munich Museum differ by their more sandy (less greyish) back, darker pileum, and slightly more yellowish (less greyish) under parts, but others from the same region in the Tring Museum are scarcely distinguishable from the typical Madeira birds.

In *O. littoralis* there is a marked difference in size between the sexes, the males being considerably larger.

Five adult males (Rio Madeira and Caura). Wing 73—75 ; tail 58—60½ mm.
Seven females „ „ „ „ . „ 66—70 ; „ 54—58 „

86. **Fluvicola albiventer** (Spix).

Muscicapa albiventer Spix, *Av. Bras.* ii. p. 21. pl. xxx. fig. 1 (1825.—"in campis Brasiliae" : part. ♂)

No. 111. Juv. (not sexed), Calama, 26. vi. 1907. "Iris brown, feet and bill black."—Wing 64 ; tail 47 ; bill 14 mm.

Agrees with one of Spix's typical specimens in the Munich Museum, but is rather more blackish above, and has brownish white apical margins to the greater upper wing-coverts. The scapulars are blackish brown like the back ; the rump is crossed by a narrow white band ; the rectrices are uniform blackish without white apical edges, which are always well defined in the allied *F. pica* (Bodd.).

F. albiventer has a wide range in Brazil, Argentine, etc.

87. **Knipolegus pusillus** Scl. & Salv.

Cnipolegus pusillus Sclater & Salvin, *Nomencl. Av. Neotrop.* p. 158 (1873.—Amazonia inf., exact locality not known).

No. 551. ♂ ad., Jamarysinho, R. Machados, 14. ix. 1907. "Iris dark brown, feet black, bill plumbeous."—Wing 59 ; tail 51 ; bill 12 mm. (Tring Museum.)

Agrees with an example from Perico, Upper Orinoco (Cherrie coll.), which I had previously compared with the type in the British Museum. The small size and glossy black plumage together with the narrow, acuminate, three outer primaries distinguish this species among its congeners. It bears a striking likeness to *Xenopipo atronitens*, but on closer examination the two birds are seen to be quite distinct. *K. pusillus* has shorter wings, a much larger, differently coloured bill, numerous strong rictal bristles, etc.

The type, obtained by Wallace, remained unique until Cherrie obtained two

specimens near Perico, on the Orinoco.* Quite recently Miss Snethlage shot a male at Alcobaça, on the left bank of the Tocantins,† this being the first ascertained locality within Brazilian limits.

[88. **Knipolegus sclateri** Hellm.

Knipolegus sclateri Hellmayr, *Nov. Zool.* xiii. p. 318 (1906.—Rio Madeira).
Cnipolegus unicolor (nec Kaup) Pelzeln, *l.c.* p. 99 (Rio Madeira).

The type was obtained by Natterer, November 18, 1829, on the Rio Madeira between Crato and Sapucaiarocca, but on which side of the river is not stated on the label. Pelzeln (*l.c.* note 1) also describes the female, which would appear to be very different from that of *K. orenocensis* Berl., the nearest ally of *K. sclateri*. Unfortunately it is no longer to be found in the Vienna Museum.]

89. **Muscisaxicola fluviatilis** Scl. & Salv.

Muscisaxicola fluviatilis Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1866. p. 187 (1866.—"in ripis fl. Ucayali inf.," East Peru).

No. 919. ♂ ad., Maruins, Rio Machados, 9. vi. 1908. "Iris brown, feet black, bill blackish brown."—Wing 77; tail 52; bill 13¾ mm. (Munich Museum.)

[Vienna Museum: ♀ ad., Rio Madeira (below Crato), 14. xi. 1829 (Natterer coll.).—Wing 77; tail 51; bill 14½ mm.]

The two birds have the rufescent edges to the upper wing-coverts rather narrower, and the throat and chest more strongly washed with brownish buff, than Peruvian examples with which they otherwise agree. These slight differences may be seasonal or individual.

This is the first published record of *M. fluviatilis* from Brazil. Natterer had obtained, as long ago as 1829, a single female on the banks of the Rio Madeira, one day's journey below Crato, but the species was accidentally omitted in Pelzeln's work.

90. **Platyrinchus senex nattereri** Hart. & Hellm.

[*Platyrhynchus senex* Sclater & Salvin, *P. Z. S. London.* 1880. p. 156 (1880.—Sarayaçu, Eastern Ecuador).]
Platyrhynchus nattereri Hartert & Hellmayr, *Bull. B. O. C.* xii. p. 63 (April 1902.—Salto do Girao, Rio Madeira).
P. rostratus (not of Latham) Pelzeln, *Zur Ornith Bras.* ii. 1868. p. 100 (part.: Salto do Girao).

No. 892. (♂) ad., Maruins, 31. v. 1908. "Iris dark brown, feet clear greyish brown, bill black, below pale grey."—Wing 66; tail 36; bill 11 mm.

No. 281. ♂ imm., Calama, 28. vii. 1907. "Iris dark brown, feet whitish yellow, bill black, below grey."—Wing 64; tail 34½; bill 11 mm.

[Mus. Vindob. No. 17680, "♀" imm. Salto do Girao, R. Madeira, 4. xi. 1829 (J. Natterer coll.). Type of *P. nattereri* Hart. & Hellm.—Wing 59; tail 30½; bill 11 mm.]

The specimens procured by Mr. Hoffmanns tend to show that most of the characters given in the original description are not constant. The type of *P. nattereri* is an immature bird, as I satisfied myself by careful re-examination.

The adult male (No. 892) has the top and sides of the head of the same deep slate-grey as a series of *P. griseiceps* from British Guiana, Surinam, and the Caura

* Berlepsch & Hartert, *Nov. Zool.* ix. 1902. p. 36.
† *Journ. f. Ornith.* 1908. p. 525.

Valley, Venezuela, and the throat pure white like adult birds of the form just mentioned. There is, however, one character which serves to distinguish readily the Madeira form from *P. s. griseiceps*, that is, the much paler and clearer, greenish olive-brown (instead of rufescent or deep russet-brown) colour of the back. The immature birds, the type from Salto do Girao and the ♂ from Calama, differ by having the throat and lores washed with pale sulphur-yellowish, the cap much paler slate-grey, tinged with olivaceous, the sides of the head clear olive-grey, the back decidedly lighter brown, and the belly paler ochraceous. The greater upper wing-coverts and the quills show narrow, rufescent apical margins.

The following condensed review of the geographical races of the *P. senex* group may be useful to students of the neotropical ornis.

(*a*) *Platyrinchus senex senex* Scl. & Salv.

Platyrhynchus senex Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1880. p. 156 (Sarayaçu, Eastern Ecuador); Taczanowski, *P. Z. S. Lond.* 1882. p. 18 (Yurimaguas, N. Peru; descr. ♀ ad.); idem, *Orn. Pérou* ii. 1884. p. 224 (Yurimaguas); Sclater, *Cat. Birds Brit. Mus.* xiv. 1888. p. 65 (Sarayaçu; Chamicuros, N. Peru).

Hab. Eastern Ecuador: Sarayaçu (Buckley). North Peru: Yurimaguas (Stolzmann), Chamicuros (Mus. Brit.).

Type locality: Sarayaçu, Eastern Ecuador.

Specimens examined:

				Wing.	Tail.	Bill.
1.	Mus. Brit.	Adult (not sexed), Sarayaçu	*Types of species*	62	32	12 mm.
2.	„ „	Av. imm. „ „ „	*Types of species*	65	33	12½ „
3.	„ „	Adult „ „ Chamicuros		68	37	12 „

Adult. Top of the head slaty blackish with a half-concealed white coronal patch; back deep rufescent brown;* sides of the head very dark slate-grey. Throat white, rest of under surface deep ochraceous.

Obs. From the scanty material at hand it is difficult to say whether this form is really distinct from *P. s. griseiceps*. Nos. 2 and 3 have the cap decidedly darker, more blackish, than any specimens of the latter race, but No. 1 approaches it very closely in that respect. Other differences do not exist, for the colour of the back and belly, upon which Salvin, when describing *P. griseiceps*, laid much stress, proves to be variable. None of the specimens seen by me being sexed, I cannot say whether the sexes are alike or not, but probably the female has less white on the crown as is the case in the allied forms.

(*b*) *Platyrinchus senex griseiceps* Salv.

Platyrhynchus griseiceps Salvin, *Bull. B. O. C.* no. xlviii. p. xv. (Nov. 1897.—"Aunai,† British Guiana"); Berlepsch & Hartert, *Nov. Zool.* ix. 1902. p. 37 (Caura, Venezuela).

P. rostatus (nec Latham) Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 100 (part.: Serra Carauman, Rio Branco).

P. senex (nec Sclater & Salvin) Hartert & Hellmayr, *Bull. B. O. C.* xii. 1902. p. 64 (Serra Carauman).

Hab. British Guiana: Ourumee (H. Whitely, jun.). Surinam: near Paramaribo (Chunkoo). N.E. Brazil: Serra Carauman, on the Rio Branco (Natterer). East Venezuela, Caura Valley: Suapure (Klages), Nicare, La Pricion (E. André).

* The term "yellowish olive" used by Dr. Sclater (*l.c.* p. 65) is altogether misleading.

† This is a mistake, the type being from Ourumee.

Type locality : Ourumee, British Guiana.

Specimens examined :

	Wing.	Tail.	Bill.	
1. Mus. Brit. ♂ ad., Ourumee, Oct. 31, 1890. *Type of species*	63	35	12½	mm.
2. Mus. Brit. ♂ ad., Ourumee, Oct. 9, 1890 .	65	35	13	„
3. Mus. Brit. ♀ ad., Ourumee, Oct. 31, 1890 .	59	30½	13	„
4. Mus. Tring. ♀ ad., Ourumee, Sept. 29, 1890 .	58	30	12	„
5–9. Mus. Tring. ♂♂ ad., Surinam . . .	60—65	30—35	12—13	„
10. Mus. Tring. ♂ imm., Surinam . . .	64½	32	13	„
11, 12. Mus. Tring. ♀♀ ad., Surinam . . .	61	32, 34	12	„
13–16. Mus. Tring. ♂♂ imm., Caura Valley, Venez.	61½—64	33—36	12—13	„
17. Mus. Monac. ♂ ad., Caura Valley, Venez. .	63	37	12	„
18. Mus. Vindob. ♂ ad., Serra Carauman, Rio Branco, June 7, 1832	65	34½	12	„

Adult. Top of the head lighter than in *P. s. senex*, slate-grey, sides of the head also averaging paler grey. Males with a large white coronal patch, females without or with very little white. Back clear rufescent or russet-brown.

Obs. Nos. 1, 3, and 4 have the abdomen distinctly paler, sulphur-yellow, than the rest of the belly, which is bright ochraceous, while in a series from Venezuela and in the bird from the Rio Branco all the under surface (except the white throat) is uniform deep ochraceous (like *P. s. senex*). As, however, No. 2 (Ourumee) and the examples from Surinam agree with the Venezuelan ones, this slight difference must be purely individual. Notwithstanding our former affirmation (*Bull. B. O. C.* xii. p. 64), Natterer's male from the Rio Branco undoubtedly belongs to *P. s. griseiceps* ; it is perfectly identical with some of the Caura specimens.

The colour of the back is rather variable in my series. Some examples (*e.g.* Nos. 1, 3, etc.) are indeed lighter than *P. s. senex*, but others (Nos. 4, 13–15) match them exactly, and No. 17 (Caura) is even darker and more rufescent brown.

(*c*) *Platyrinchus senex nattereri* Hart. & Hellm.

Hab. Central Brazil, Rio Madeira, east bank : Salto do Girao (Natterer), Calama (Hoffmanns), Maruins on the Rio Machados (Hoffmanns).

Type locality : Salto do Girao.

Specimens examined : *vide supra.*

Adult. Similar to *P. s. griseiceps* in having the head slate-grey, but differing by the much paler, greenish olive-brown colour of the back.

91. Platyrinchus coronatus coronatus Scl.

Platyrhynchus coronatus Sclater, *Proc. Zool. Soc. Lond.* xxvi. 1858. p. 71 (1858.—Rio Napo, Eastern Ecuador).

P. c. coronatus Hellmayr, *Nov. Zool.* xiv. 1907. p. 354 (Humaytha, Paraiso).

Nos. 46, 161, 304, 456. ♂♂ ad., Calama, 15. vi., 3, 30. vii., 26. viii. 1907. "Iris brown, feet grey, bill black, below grey."—Wing 55—58½ ; tail 25—28 ; bill 12 mm.

No. 5. ♀ ad., Calama, 8. vi. 1907. Soft parts as above.—Wing 54 ; tail 24 ; bill 11½ mm.

Nos. 898, 924. ♂♂ ad., Maruins, 2, 12. vi. 1908.—Wing 54, 58 ; tail 25, 27 ; bill 11½ mm.

No. 891. ♂ imm., Maruins, 31. v. 1908.—Wing 54 ; tail 24 ; bill 11 mm.

The series fully corroborates what I have said about the distinguishing characters of *P. c. coronatus* and *P. c. superciliaris*. In addition to the differences mentioned *l.c.*, the rufescent brown edges to the rectrices are another point that will serve to recognize the former race. The adult males have a large golden yellow coronal patch bordered laterally by a broad tawny stripe, whereas in the female and young male the whole pileum is tawny ochraceous. Cheeks and under parts are always maize-yellow, with a buffy brown wash on chest and sides.

92. **Todirostrum maculatum signatum** Scl. & Salv.

[*Todus maculatus* Desmarest, *Hist. Nat. Tangaras*, etc., pl. 70 (1805.—"Guiane," sc. Cayenne).]
Todirostrum signatum Sclater & Salvin, *Ibis* 1881. p. 267 (1881.—N.E. Peru).

Nos. 102, 147. Adult, juv., Calama, 24. vi., 2. vii. 1907.—Wing 45, 43½; tail 35, 32; bill 14, 12 mm.

No. 848. ♂ ad., Marmellos, 22. xii. 1907.—Wing 47; tail 35; bill 14 mm.

"Iris yellow (brown in No. 147, juv.), feet plumbeous, bill black, below grey."

The adult birds agree perfectly with several topotypical specimens from North-Eastern Peru (Nauta). A series from the Rio Napo (Wiener coll., Paris Museum), the examples obtained by Natterer on the Rio Negro and Rio Branco,* as well as skins from Teffé, Rio Jurná, and Itaitúba, west bank of Tapajóz, belong likewise to the same race. All of these many specimens differ from a good series of true *T. m. maculatum*, from Cayenne, Surinam, and British Guiana, by having the feathers of the forehead and vertex clear slate-grey with small dusky discs, and mostly with narrow white lateral edges; while in the typical form, the front and forepart of the crown are distinctly black, with the white edges more pronounced.

T. m. signatum has a much wider range than was hitherto supposed. In fact all the specimens I have seen except the Guianan ones proved to belong to this race. I have examined examples from the following localities: Nauta (4), Iquitos (1), Rio Napo (5), Teffé (1), Rio Madeira (3), Itaitúba (1),† Rio Jurná (1); Rio Negro: Barcellos (4), Carvoeiro (3), Forte do Rio Branco (1).

T. m. maculatum (Desm.) is evidently confined to the coast district of Cayenne, Surinam, and British Guiana (Bartica Grove). It may, however, be that the birds from Pará, Mexiana, Tocantins, and Santarem are also referable to the typical race, but as yet I have not seen skins from any of these localities.

93. **Todirostrum chrysocrotaphum** Strickl.

Todirostrum chrysocrotaphum Strickland in *Contrib. to Ornith.* 1850, *Illustr. Ornith.* p. 48. pl. (49). fig. sup. (1850.—Peru).

No. 830. ♂ imm., Marmellos, 19. xii. 1907. "Iris dark brown, feet plumbeous, bill black, below dark grey."—Wing 40½; tail 30; bill 12½ mm.

Identical with a Bolivian specimen, except that the hind-crown is slightly washed with greenish olive, and the auricular patch blackish olive instead of deep black, both apparent signs of immaturity.

New to the fauna of Brazil.

* *T. maculatum* Pelzeln, *Zur Orn. Bras.* ii. p. 101.

† Miss Snethlage (*Journ. f. Orn.* 1908. p. 501) erroneously refers the Tapajóz birds to *T. maculatum*. Cf. my remarks in *Nov. Zool.* xiv. 1907. p. 11.

T. illigeri Cab. & Heine,* synonymized with *T. chrysocrotaphum* by Dr. Sclater, is evidently quite a good form, differing by its white throat and by the possession of a distinct black moustachial stripe. I have examined the type in the Berlin Museum.

[94. **Todirostrum senex** (Pelz.).

Euscarthmus senex **Pelzeln, *Zur Ornith. Bras.* ii. p. 173 (1869.—Borba).**

Right bank : Borba (Natterer).

The type specimen, an adult male, obtained by Natterer in June 1830, is still unique in the Vienna Museum. Thanks to the kindness of Dr. von Lorenz, I have been enabled to examine it, and have come to the conclusion that it is more correctly placed in the genus *Todirostrum*. The bill has very nearly the same shape as that of *T. fumifrons* Hartl., but is somewhat shorter. In the species of *Euscarthmus*, on the other hand, the bill is much longer, as well as strongly attenuated for its terminal portion. In coloration, *T. senex* is perhaps nearest to *T. schistaceiceps*,—presents, however, many points of distinction. The back is much darker and duller green (instead of bright yellowish green) ; the markings of the wing-coverts and inner secondaries are much paler, whitish yellow (not deep olive-yellow) ; the cheeks, ocular and auricular regions clear isabelle (instead of dark slate-grey) ; the throat and foreneck white with distinct, though narrow, brownish shaft-streaks ; on the top of the head the slate-grey is confined to the forehead and occiput, while the hind-crown and nape are green like the back, etc., etc. Moreover, the bill and tail are much shorter.

The type measures : wing 48 ; tail 34 ; bill 12 mm.]

[95. **Todirostrum latirostre** (Pelz.).

Euscarthmus latirostris **Pelzeln, *Zur Orn. Bras.* ii. p. 173 (1868.—Borba) ; cf. Hellmayr, *Nov. Zool.* xiv. p. 47 (crit.).**

Right bank : Borba (Natterer). Rather widely distributed in Upper Amazonia.]

96. **Euscarthmus striaticollis striaticollis** (Lafr.).

Todirostrum striaticolle **Lafresnaye, *Rev. Mag. Zool.* (2). v. p. 58 (1853.—Bahia).**
Euscarthmus striaticollis **Pelzeln, *l.c.* p. 101 (Mattogrosso, Rio Guaporé).**

Nos. 641, 683. ♂ (?) ♀ ad., S. Isabel, Rio Preto, 8, 11. x. 1907.—Wing 50½, 49 ; tail — ; bill 13 mm.

" Iris yellow, feet brown, bill black."

Agrees with the Araguaya specimen (*Nov. Zool.* xv. 1908. p. 42) in the dull green colour of the upper parts, and in having only the anterior part of the pileum mouse-brown, but the belly is clearer yellow with barely any greenish shade on the chest.

This is not the first record of the species from Amazonia, for Chapman† has already listed a specimen from Santarem. Count Berlepsch possesses a skin obtained by Dr. Hahnel on the Lower Amazons, but the exact locality is not indicated.

E. striaticollis, *E. iohannis*, and *E. zosterops* form a natural group, repre-

* *Mus. Heinean.* ii. p. 49 (1859.—" Para," type in Berlin Museum, No. 2869).
† *Auk*, 1890, p. 270.

senting each other geographically. In structural details—shape of the nostrils, wing-formula, and form of the tail—they are practically identical, and differ only in slight colour characters.

(*a*) *E. striaticollis striaticollis* (Lafr.).

Central and Eastern Brazil: Bahia (many specimens in various collections examined); Goyaz: Rio Araguaya (Natterer, Baer); Mattogrosso: Chapada (Smith), Villa Maria, Villa Bella de Mattogrosso (Natterer); S. Isabel, Rio Madeira (Hoffmanns); Santarem, Rio Tapajóz (Smith).

Characters. Crown, at least anterior part, mouse-brown, more or less contrasting with the green of the back. Nasal feathers and lores white. Cheeks and ear-coverts pale brown. Throat white and, like the chest, very distinctly streaked with blackish; breast and abdomen bright yellow, flanks and sometimes chest also shaded with greenish. Upper wing-coverts dusky edged with the colour of the back. Wing: ♂♂ 53—55, ♀♀ 48—50; tail: ♂♂ 44—45, ♀♀ 37—40 mm.

Examined. 1 ♂ ad., Villa Bella de Mattogrosso; 2 ♂♂ ad., Rio Araguaya, Goyaz; 1 ♂, 1 ♀, S. Isabel, Rio Madeira; 9 ad. and juv., Bahia; 1 (♀) ad., Lower Amazons (Hahnel).

(*b*) *E. striaticollis iohannis* Snethlage.

Euscarthmus iohannis Snethlage, *Orn. Monber.* xv. p. 193 (1907.—Monte Verde, Rio Purús).
E. zosterops (nec Pelzeln) Snethlage, *Journ. f. Orn.* 1908. p. 12 (Monte Verde, Rio Purús).

Hab. W. Brazil: Monte Verde, on the Rio Purús.

Characters. Differs from the preceding form by its rusty buff (not white) lores and eyelid, paler brown legs, and by having the whole pileum (from the forehead to the nape) uniform green like the back. The edges to the upper wing-coverts are slightly more yellowish green, the axillaries deeper yellow than in *E. s. striaticollis.* Under parts exactly as in the latter: throat white with conspicuous blackish streaks, breast and abdomen bright yellow, chest slightly washed with greenish.

Type of species: Pará Museum, No. 3539. ♂ ad., Rio Purús (Monte Verde), February 20, 1904.—Wing 55; tail 43; bill 12 mm.

N.B.—By mistake the type was recorded s.n. *E. zosterops* in Miss Snethlage's report on the Purús collections.

(*c*) *E. striaticollis zosterops* Pelz.

Euscarthmus zosterops Pelzeln, *Zur Orn. Bras.* ii. p. 173 (1868.—part.: descr. et hab. Marabitanas; cf. *Nov. Zool.* xiv. 1907 pp. 355-6); (?) Salvadori & Festa, *Boll. Mus. Torino* xiv. no. 362. p. 5 (1899.—Rio Santiago, Eastern Ecuador).

Hab. N.W. Brazil: Marabitanas and San Carlos,* upper Rio Negro (Natterer). (?) Eastern Ecuador: Rio Santiago (Festa).

Characters. Upper parts much duller green than in *E. s. striaticollis* and *E. s. iohannis*, frontal edge slightly mixed with ashy. Lores and eyelid dull white, cheeks and ear-coverts ashy, faintly tinged with olive posteriorly. Median and greater upper wing-coverts dusky, each feather with a well-defined, pale yellow apical spot, forming two distinct wing-bands. Under parts pale, "primrose-yellow" (Ridgw., *Nomencl.* vi. fig. 13), chin nearly whitish; throat obsoletely

* San Carlos, though not mentioned on p. 173, is included among the localities given under the heading of the species in the general list (p. 102 of Pelzeln's work).

striated with pale greyish, chest faintly flammulated with the same. Axillaries pale yellow.

Vienna Museum, No. 17738. ♂ ad., Marabitanas, March 13, 1831. *Type of species.*—Wing 52 ; tail 48; bill 11 mm.

Vienna Museum, No. 17739. ♂ ad., Rio Negro, below S. Carlos, February 14, 1831.—Wing 51 ; tail 48 ; bill 12 mm.

N.B.—I have not seen specimens from Eastern Ecuador. In Peru a nearly allied, but sufficiently distinct, form is met with. There are three examples of it in the Paris Museum, obtained by Comte de Castelnau. It will shortly be described in another connection.

97. **Snethlagea minor** (Snethlage).

Euscarthmus zosterops minor **Snethlage**, *Orn. Monber.* xv. p. 193 (1907.—Arumatheua, R. Tocantins) ; *Journ. f. Orn.* 1908. p. 525.

E. zosterops (nec Pelzeln) Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 102 (part.: Borba) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 355 (Borba) ; **Snethlage**, *Journ. f. Orn.* 1908. p. 501 (Villa Braga, Tapajóz).

Nos. 269, 317. ♂ ad., ♂ juv., Calama, 25. vii., 1. viii. 1907.—Wing 51, 52 ; tail 39½, 42 ; bill 10 mm.

No. 761. (♀) Allianca, 8. xi. 1907.—Wing 43 ; tail 35 ; bill 10½ mm.

No. 902. ♂ ad., Maruins, 3. vi. 1908.—Wing 52 ; tail 39 ; bill 10¾ mm. (Mus. Munich.)

[No. 1459. ♂ ad., Borba, 11. xii. 1906.—Wing 50½ ; tail 38 ; bill 11 mm. (*E. zosterops* apud Hellm., *Nov. Zool.* xiv. p. 355).

No. 1334. ♀ ad., Borba, 14. xi. 1906. — Wing 46 ; tail 34 ; bill 11 mm. (*E. zosterops* apud Hellm., *Nov. Zool.* xiv. p. 355).

Vienna Museum, No. 17740. ♀ ad., Borba, 23. vi. 1830 (Natterer coll.).—Wing 45 ; tail 33 ; bill 10 mm.

Pará Museum, No. 5401. ♂ ad., Arumatheua, Tocantins, 26. iv. 1907 (Snethlage coll.). *Type of species.*—Wing 48 ; tail 41 ; bill 11 mm.

Pará Museum, No. 5400. ♀ ad., Arumatheua, 25. iv. 1907.—Wing 43 ; tail 32 ; bill 10½ mm.]

"Iris pale yellow, feet grey, bill blackish grey."

Count Berlepsch has pointed out that the *E. zosterops minor* of Snethlage is quite distinct from the true *E. zosterops* Pelz., and accordingly proposed the new generic term *Snethlagea* for it.* Besides the above-mentioned specimens I have examined, in the British Museum, the adult male from Borba, obtained by Natterer February 12, 1830, and described by Mr. P. L. Sclater s.n. *E. zosterops*,† and found them all to belong to the present species. *S. minor*, though resembling *Euscarthmus zosterops* in general coloration, differs by the singular shape of the nostrils, which are very large, nearly circular, and quite exposed, and by the strongly rounded tail, in which the central rectrices are longest, being about 5 mm. longer than the outermost. In *E. zosterops*, on the other hand, the nostrils are situated in an operculate fossa, with the narrow, slit-like nasal opening near its lower edge ; the tail is also strongly rounded, but at the same time distinctly emarginate, the central rectrices being slightly shorter than the submedian ones.

Adult males of *S. minor* have the rictal bristles exceedingly well developed, reaching nearly to the tip of the bill. In coloration the specimens from the

* Berlepsch, *Journ. f. Orn.* 1909. p. 104 (Type : *Euscarthmus zosterops minor* Snethl.).

† Sclater, *Cat. B. Brit. Mus.* xiv. 1888. p. 79 (Borba).

Rio Madeira agree perfectly with those from the Tocantins. The ♂ ad. from Marnins has the middle of the abdomen whitish, exactly like the type (No. 5401 Pará Museum). Miss Snethlage (in litt.) informs me that the skin from Villa Braga, recorded s.n. *E. zosterops*, is likewise referable to *S. minor*.

S. minor is at yet only known from the Rio Madeira, Tapajóz, and Tocantins.

98. **Orchilus ecaudatus** (Lafr. & D'Orb.).

Todirostrum ecaudatum Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 47 (1837. — Yuracares, Eastern Bolivia).
Orchilus ecaudatus Pelzeln, *l.c.* p. 102 (Salto do Girao).

Nos. 53, 315, 392. ♂♂ ad., Calama, 17. vi., 1, 15. viii. 1907.—Wing 33—34½; tail 13½—15; bill 9½—10 mm.

No. 635. ♀ ad., S. Isabel, Rio Preto, 7. x. 1907.—Wing 33; tail 13; bill 9 mm.

"Iris brown, feet greyish yellow, bill black."

This curious bird is widely distributed all over South America, east of the Andes, from Trinidad and Venezuela down to Northern Bolivia.

[99. **Stigmatura budytoides budytoides** (Lafr. & D'Orb.).

Culicivora budytoides Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 56 (1837.—Valle Grande, Bolivia).
Stigmatura budytoides Pelzeln, *l.c.* p. 104 (Barra do Rio Jamary, Rio Madeira).

Mouth of the Rio Jamary (Natterer).

Natterer's specimens agree with others from Bolivia. Mr. Hoffmanns obtained it also at Urucuritúba, left bank of the Tapajóz.*

In Argentine it is represented by the nearly allied *S. budytoides flavocinerea* (Burm.).†]

100. **Mionectes oleagineus oleagineus** (Licht.).

Muscicapa oleaginea Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 55 (1823.—Bahia).
Mionectes oleagineus Pelzeln, *l.c.* p. 104 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 356 (Humaytha).

Nos. 144, 374, 457. ♂♂ ad., Calama, 3. vii., 12, 26. viii. 1907.—Wing 60—63; tail 49—50½; bill 11 mm.

No. 143. ♀ ad., Calama, 1. vii. 1907.—Wing 57½; tail 46; bill 10½ mm.

No. 563. ♂ imm., Jamarysinho, 17. ix. 1907.—Wing 64; tail 50; bill 11 mm.

"Iris brown, feet and bill grey or greyish brown."

Identical with specimens from Bahia and Bogotá collections.

[101. **Tyrannulus elatus** (Lath.).

Sylvia elata Latham, *Ind. Ornith.* ii. p. 549 (1790.—based on D'Aubenton, Pl. enl. 708. fig. 2: Cayenne).
Tyrannulus elatus Pelzeln, *l.c.* p. 106 (Borba).

Right bank: Borba (Natterer).

The specimens from Borba, as well as those from other Amazonian localities,

* Cf. *Nov. Zool.* xiv. p. 11.

† *Phylloscartes flavo-cinereus* Burmeister, *Reise La Plata Staat.* ii. p. 455 (1861.—Mendoza, Sierra de Uspallata).

are perfectly similar to Cayenne skins. Cf. my remarks in *Abhandl. Bayer. Akad. Wissensch. II. Cl.* vol. xxii. 3. pp. 640–41.

T. elatus is widely distributed in Amazonia.]

102. **Tyranniscus gracilipes** Scl. & Salv.

Tyranniscus gracilipes Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1867. p. 981 (1868.—Pebas, N.E. Peru).

No. 658. ♂ ad., S. Isabel, Rio Preto, 9. x. 1907.—Wing 48; tail 42; bill $8\frac{3}{4}$ mm.

No. 638. ♀ imm., S. Isabel, 7. x. 1907.—Wing 44; tail 37; bill 8 mm.

No. 1040. ♀ ad., Maruins, Rio Machados, 21. vii. 1908.—Wing 45; tail 38; bill 8 mm.

"Iris yellow, feet and bill black."

The three skins are very uniform *inter se*. The back is bright grass-green, the bill large and somewhat blunt. An adult bird from Salinas, Beni, Eastern Bolivia, in the Tring Museum, has the under parts, including the throat, of a much deeper olive-yellow, the ear-coverts brighter yellowish olive-green, and the bill decidedly longer. A series from the Roraima Mts. (British Guiana) and the upper Rio Negro (R. Icanna, Barcellos, Marabitanas)* differ from the preceding ones by their much duller, olive-green back, and much narrower, slenderer bill. An apparently immature female from Maipures (Orinoco R.), however, agrees perfectly with Mr. Hoffmanns' examples. The type from Pebas (in the British Museum) should be re-examined in order to ascertain the exact application of the name *gracilipes*.

103. **Elaenia flavogaster spectabilis** Pelz.

[*Pipra flavogaster* Thunberg, *Mém. Acad. St. Pétersbg.* viii. p. 286 (1822.—Brazil; cf. Lönnberg, *Ibis* 1903. p. 241).]

Elainea spectabilis Pelzeln, *Zur Ornith. Bras.* ii. p. 176 (1868.—Goiaz †); Berlepsch & Leverkühn, *Ornis* vi. 1890. p. 13 (Araguaya, Goiaz, Jaragua, Maria Rosa: state of Goyaz); Berlepsch, *l.c.*, xiv. 1907. p. 389.

No. 482. Adult, Calama, 29. viii. 1907. "Iris dark brown, feet and bill black."—Wing 88; tail 77; bill $12\frac{1}{2}$ mm.

No. 441. Av. junior in moult, Calama, 23. viii. 1907. "Iris greyish brown, feet black, bill grey."—Bill 12 mm.

The adult bird (No. 482) agrees with Natterer's type† in every respect. Both have a little white at the extreme base of some of the crest feathers. It differs, however, from the two specimens in the Vienna Museum and another adult ♂ from Araguaya, Goyaz, in Mus. Berlepsch by its rather lighter, more greenish upper surface; this trifling variation is very likely individual. As correctly pointed out by Berlepsch & Leverkühn, *E. f. spectabilis* may be readily distinguished from *E. f. flavogaster* (= *pagana* auct.) by its much larger size and much stronger as well as longer bill. In seven specimens (five from Goyaz, one each from Calama and Barcellos, Rio Negro) the wing measures from 88 to 92, the tail from 79 to 85 mm.

* "*Myiopatis pusilla* (?)" Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 106 (part.).

† Although Pelzeln (*l.c.* p. 176) says that Natterer sent only a single male of this species, the Vienna Museum possesses two specimens from Natterer's travels: an adult male taken at the city of Goyaz August 16, 1823, which is to be considered as the type, and an adult male obtained at Barcellos, Rio Negro, August 31, 1831. The latter locality alone is mentioned in the systematic list of Pelzeln's book (p. 107).

104. **Elaenia parvirostris** Pelz.

Elainea parvirostris Pelzeln, *Zur Ornith. Bras.* ii. pp. 107, 178 (1868.—Curytiba (*type*) ; Borba, Rio Madeira ; Barcellos, R. Negro).

No. 1046. ♂ ad., Maruins, Rio Machados, 21. vii. 1908. "Iris and feet black, bill black, lower mandible flesh-colour."—Wing 78 ; tail 68 ; bill 10 mm.

Larger than any other specimen I have seen, but in coloration typical of *E. parvirostris*. This species has a wide range, being found from Southern Brazil northwards to British Guiana, Venezuela, and Eastern Colombia (Bogotá coll.).

[105. **Elaenia ruficeps** Pelz.

Elainea ruficeps Pelzeln, *Zur Orn. Bras.* ii. pp. 108, 179 (1868.—Borba).

Right bank : Borba (Natterer).

This species is also recorded from Southern French Guiana (Oyapoc), and from the Merumé Hills, in British Guiana ; but specimens from these places require careful comparison with the type in the Vienna Museum.]

[106. **Elaenia gaimardii gaimardii** (D'Orb.).

Muscicapara Gaimardii D'Orbigny, *Voyage, Oiseaux*, p. 326 (between 1838—1847.—Yuracarès, East Bolivia).

Elainea elegans Pelzeln, *l.c.* pp. 107, 179 (Engenho do Gama, Mattogrosso ; Borba, etc.).

Right bank : Borba (Natterer).

Specimens from the Rio Madeira district agree with one of D'Orbigny's typical examples for the loan of which I am indebted to my friend M. Ménégaux, of the Paris Museum.]

[106A. **Elaenia flavivertex** Scl.

Elainea flavivertex Sclater, *Proc. Zool. Soc. Lond.* 1887. p. 49 (1887.—Upper Ucayali, Eastern Peru).

E. implacens (nec Sclater) Pelzeln, *Zur Orn. Bras.* ii. p. 108 (part. : Borba).

Right bank : Borba (Natterer).

A single young male, partly in nestling plumage, was obtained by Natterer February 7, 1830.—Wing 58 ; tail 50 ; bill 10 mm.

Although young, it unquestionably belongs to the present species. This is clearly indicated by the dull olive-green back, the short tail, the broad bill, and particularly by the newly grown greater upper wing-coverts being distinctly tipped with light yellow. Count Berlepsch agrees to my identification. *E. flavivertex* is new to the Brazilian fauna. Hitherto it had been recorded from Eastern Peru (Upper Ucayali, Elvira, Nauta), Venezuela (Munduapo, Upper Orinoco), and French Guiana (Roche-Marie).]

107. **Legatus albicollis albicollis** (Vieill.).

Tyrannus albicollis Vieillot, *Nouv. Dict.* xxxv. p. 89 (1819.—ex Azara : Paraguay).

No. 474. ♂ ad., Calama, 28. viii. 1907.—Wing 78½ ; tail 59 ; bill 11½ mm.

No. 883. ♂ ad., Fall 2d Novembro, Rio Machados : 13. i. 1908.—Wing 79 ; tail 59 ; bill 12 mm.

Identical with examples from South Brazil and Bahia.

[108. **Myiozetetes similis similis** (Spix).

Muscicapa similis Spix, *Av. Bras.* ii. p. 18. pl. xxv. (1825.—"ad flumen Amazonum"; cf. *Abhandl. Bayer. Akad. Wissensch. II. Cl.* vol. xxii. 3. p. 649).
Myiozetetes columbianus (nec Cabanis & Heine) Pelzeln, *l.c.* p. 109 (part.: Rio Madeira).

Rio Madeira below São João do Crato (Natterer).

This bird, an adult female, obtained November 14, 1829, is indistinguishable from Bahia and São Paulo examples.]

[109. **Myiozetetes luteiventris** (Scl.).

Elaenia luteiventris Sclater, *Proc. Zool. Soc. Lond.* xxvi. 1858. p. 71 (1858.—Rio Napo, East Ecuador).
Myiozetetes luteiventris Pelzeln, *l.c.* p. 109 (Borba).

Right bank: Borba (Natterer).

The two specimens, ♂ ad., ♀, in the Vienna Museum are slightly smaller (wing 78, 70; tail 66, 62 mm.) than two adult males from the Rio Napo, resp. Juruá (wing 82; tail 70—71 mm.), but the difference should be confirmed by larger series.]

110. **Ramphotrigon ruficauda** (Spix).

Platyrhynchus ruficauda Spix, *Av. Bras.* ii. p. 9. pl. xi. fig. 1 (1825.—"in sylvis fl. Amazonum").
Rhynchocyclus ruficauda Pelzeln, *Zur Orn. Bras.* ii. p. 110 (Borba).
Ramphotrigon ruficauda Hellmayr, *Nov. Zool.* xiv. p. 356 (Humaytha).

Nos. 154, 465. ♂ ad., ♂ imm., Calama, 21. vii., 27. viii. 1907.—Wing 76, 78 tail 70½, 73; bill 15 mm.

No. 1031. ♂ ad., Maruins, 18. vii. 1908.—Wing 77; tail 70; bill 16 mm.

Nos. 908, 1032. ♀ ♀ ad., Maruins, 5. vi., 18. vii. 1908.—Wing 72, 74; tail 66, 67; bill 14, 15 mm.

Practically identical with the types in the Munich Museum. As will be seen from the above measurements, the males are decidedly larger than the females.

111. **Craspedoprion olivaceus** (Temm.).

Platyrhynchos olivaceus Temminck, *Pl. col.* livr. 2. pl. 12. fig. 1 (1820.—Brésil"; we fix *Bahia* as type locality).

No. 857. ♀ imm., Marmellos, 24. xii. 1907.—Wing 66; tail 56 mm.

"Iris blackish brown, feet plumbeous, bill black, below greyish red."

Agrees in coloration with specimens from Pará and Cayenne, but is smaller, and paler greenish on throat, foreneck, and flanks. These slight differences are most probably due to its being immature. Typical East Brazilian (Bahia, Rio) skins have the fulvous edges to the upper wing-coverts rather broader and deeper in tint (cf. *Nov. Zool.* xiii. p. 361). *C. olivaceus* is new to the fauna of the Madeira district.

112. **Rhynchocyclus flaviventris borbae** Hellm.

[*Muscipeta flaviventris* Wied, *Beitr. Naturg. Bras.* 3. ii. p. 929 (1831.—Mucuri and Alcobaça, Southern Bahia, E. Brazil).]
Rhynchocyclus flaviventer borbae Hellmayr, *Verhandl. Zool. Bot. Gesellsch. Wien* liii. p. 208 (1903.—Borba, Rio Madeira).
R. flaviventer Pelzeln, *Zur Orn. Bras.* ii. p. 110 (Borba).
R. viridiceps (nec Sclater & Salvin) Snethlage, *Journ. f. Orn.* 1908. p. 12 (Monte Verde, Rio Purús).

No. 853. Adult (not sexed), Marmellos, 22. xii. 1907. "Iris brownish grey, feet plumbeous, bill black, below grey."—Wing 55; tail 48; bill 11¾ mm.

[Mus. Goeldi (Pará), No. 3540. ♀, Monte Verde, Rio Purús, 25. vi. 1904.—Wing 57½; tail 48; bill 11 mm.]

The two specimens agree with the typical series from Borba in the coloration of the lower parts and in the olive-yellow loral streak, but differ by their decidedly brighter, pure grass-green (instead of yellowish green) upper surface. In this respect they approach *R. f. viridiceps* * from North Peru (Pebas) and Eastern Ecuador (Napo). The latter, however, has the throat and chest distinctly light green like the sides, not clear olive-yellow as *R. f. borbae*. From both forms, *R. f. flaviventris*, of Eastern Brazil, etc., differs by having the lower parts, especially the throat and chest, much deeper, gamboge-yellow; the loral streak more clearly defined, rusty yellow or orange; and the upper wing-coverts more conspicuously edged with clear yellow.

Characters and range of the three races are as follows :—

(*a*) *R. flaviventris flaviventris* (Wied).

Hab. Eastern Brazil: Southern Bahia (Alcobaça, Mucuri), Goyaz (Rio Araguaya), Tocantins (Arumatheua), Tapajóz (Goyana).† N.E. Brazil: Forte do Rio Branco (Natterer). British Guiana, Venezuela, Trinidad, Tobago. North Colombia (Santa Marta).

Adult. Upper parts bright yellowish green; median and greater upper wing-coverts with well-defined, broad edges of deep olive-yellow. Lores and eyelid deep rusty yellow or dull orange, conspicuously contrasted with the green of the crown and yellowish green of the cheeks, etc. Under parts deep gamboge-yellow, throat and chest often tinged with dull ochraceous.

Wing 55—62; tail 47—55 mm.

Examined fifty-one specimens from Brazil, Brit. Guiana, Venezuela, Tobago, etc. Specimens from the Tapajóz and Tocantins Rivers are clearly referable to *R. f. flaviventris*, though some of them slightly point towards *R. f. borbae*. I am indebted to Miss Snethlage for the loan of the series contained in the Pará Museum.

(*b*) *R. flaviventris borbae* Hellm.

Hab. W. Brazil: Borba, Marmellos, on the Rio Madeira (Natterer, Hoffmanns); Monte Verde, Rio Purús (Mus. Goeldi).

Adult. Upper parts less yellowish green, sometimes (in Marmellos and Purús examples) even pure grass-green. Median wing-coverts edged with green, like the back; greater ones with narrow, ill-defined, greenish yellow margins. Narrow loral streak dull olive-yellow, rarely distinctly rusty yellow (in two from Borba). Under parts pale olive-yellow, slightly darker on throat and chest.

Wing 55—59; tail 47—50 mm.

Examined: five adults from Borba, including the types; one each from Marmellos and Monte Verde, Purús.

(*c*) *R. flaviventris viridiceps* Scl. & Salv.

Hab. North Peru: Pebas (Hauxwell; type). Eastern Ecuador: Rio Napo (Petit). [Central Peru: La Merced, Chanchamayo (Kalinowski).]

Adult. Loral streak and upper wing-coverts as in *R. f. borbae*, but upper parts

* *R. viridiceps* Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1873. p. 280 (Pebas, N. Peru).

† Snethlage, *Journ. f. Orn.* 1908. pp. 503, 527.

of a rather purer grass-green; throat, chest, and sides decidedly washed with greenish.

Wing 56, 58½; tail 45, 47½ mm.

Examined: one ♂ ad. from Pebas (type) in the British Museum; one adult, Rio Napo, in the Tring, and two adult males, La Merced, C. Peru, in the Branicki Museum.

Obs. The two last-named skins are larger (wing 60½, 63½; tail 49½, 53 mm.), and may again be different. The Napo bird is practically identical with the type.

113. **Rhynchocyclus sulphurescens assimilis** Pelz.

[*Platyrhynchus sulphurescens* Spix, *Av. Bras.* ii. p. 10. pl. xii. fig. 1 ("♂") (1825.—Rio de Janeiro, etc.).]

Rhynchocyclus assimilis Pelzeln, *Zur Ornith. Bras.* ii. pp. 110, 181 (1868.—Engenho do Gama, Rio Guaporé; Borba, Rio Madeira; Rio Negro, Barra (= Manáos).*

Nos. 98, 354. ♂♂ ad., Calama, 23. vi., 8. viii. 1907.—Wing 70, 71; tail 57, 60; bill 13 mm.

Nos. 217, 332. ♀♀ ad., Calama, 13. vii., 5. viii. 1907.—Wing 63, 64; tail 50, 51; bill 12 mm.

No. 185. juv., Calama, 7. vii. 1907.—Wing 61; tail 49; bill 12 mm.

Nos. 930, 1045. ♂♂ ad., Maruins, 14. vi., 21. vii. 1908.—Wing 68, 69; tail 56; bill 13 mm.

"Iris brown, feet and bill black, lower mandible greyish."

The series agrees with Natterer's typical specimens in the Vienna Museum. *R. s. assimilis*, from the Rio Negro and the Madeira district, differs from *R. s. sulphurescens*, of South-Eastern Brazil, by its much duller, less yellowish green back, and by having the pileum nearly uniform slate-grey, with scarcely any greenish admixture. The other characters—viz. smaller size, paler yellow wing-markings and under parts, etc.—however, do not hold good.

Examples from Northern Peru (Huambo, Xeberos, Chamicuros) agree with *assimilis* in the coloration of the cap, but the back is bright olive-green, even brighter than in *sulphurescens*. I take them to belong to *R. sulphurescens peruvianus* Tacz.,† though I have not yet examined skins from the type locality.

114. **Rhynchocyclus poliocephalus sclateri** Hellm.

Rhynchocyclus poliocephalus sclateri Hellmayr, *Verhandl. Zool. Bot. Gesellsch. Wien* liii. p. 207 (1903.—Barra do Rio Negro).

No. 396. ♀ ad. (in worn plumage), Calama, 15. viii. 1907.—"Iris yellowish grey, feet and bill black."—Wing 54; tail —; bill 11 mm.

Agreeing with the type and other specimens from Guiana, Bahia, Rio Negro, etc. This is the *R. megacephalus* of Sclater & Salvin, but not of Swainson,‡ as I have pointed out in another paper.§ It is closely allied to *R. poliocephalus* Tacz., from Upper Amazonia, in fact its eastern representative. In the following lines I give a short summary of their characters and geographical distribution, together with the principal synonymy:—

* There are no specimens from S. Vicente, also mentioned by Pelzeln, in the Vienna Museum.

† *Rhynchocyclus peruvianus* Taczanowski, *Proc. Zool. Soc. Lond.* 1874. p. 537 (Ropaybamba, Centra Peru).

‡ *Tyrannula megacephala* Swainson, *Birds Brazil* pl. 47.

§ *Verhandl. Zool. Bot. Gesellsch. Wien* liii. 1903. pp. 205–7.

(*a*) *R. poliocephalus poliocephalus* Tacz.

Rhynchocyclus poliocephalus Taczanowski, *Orn. Pérou* ii. p. 285 (1884.—Nauta, N.E. Peru ; type in Mus. H. v. Berlepsch) ; Sclater, *Cat. Birds Brit. Mus.* xiv. p. 171 (part.).

R. megacephalus (nec Swainson) Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1866. p. 189 (Upper Ucayali : vidi) ; iidem, *l.c.* 1867. p. 751 (Xeberos : vidi) ; iidem, *l.c.* 1867. p. 978 (Pebas) ; iidem, *l.c.* 1873. p. 280 (E. Peru) ; iidem, *l.c.* 1873. p. 185 (Cosnipata, S.E. Peru) ; Taczanowski, *l.c.* 1882. p. 20 (Yurimaguas) ; idem, *Orn. Pérou* ii. 1884. p. 283 (part. : Peru).

R. poliocephalus poliocephalus Hellmayr, *Nov. Zool.* xiv. 1907. p. 48 (Teffé).

Hab. N.W. Brazil : Teffé, Rio Solimoëns (Hoffmanns). North-Eastern Peru : Upper Ucayali, Xeberos (Bartlett), Yurimaguas (Stolzmann), Pebas, Nauta (Hauxwell). S.E. Peru : Cosnipata (Whitely). Eastern Ecuador : Napo (spec. in Mus. H. v. B.).

Characters. The slate-grey cap decidedly mixed with olive-green, back brighter green. Lower parts rather bright yellow, throat scarcely paler than the rest.—Wing (♂) 56—58, (♀) 52—55 ; tail (♂) 47, (♀) 42—45 mm.

Examined : 1 adult, Nauta (type) ; 1 ♀ ad., East Ecuador, in Mus. H. v. B. ; 1 ♂ ad., Upper Ucayali, July 7, 1865 ; 1 ♂ ad., Xeberos, June 6, 1866 (E. Bartlett coll.) ; 1 ♀ ad., Teffé (Hoffmanns), all three in the Tring Museum.

(*b*) *R. poliocephalus sclateri* Hellm.

R. poliocephalus sclateri Hellmayr, *Verhandl. Zool. Bot. Ges. Wien* liii. p. 207 (1903.—Barra do Rio Negro ; crit.) ; idem, *Nov. Zool.* xiii. 1906. p. 361 (Prata, Pará) ; Snethlage, *Journ. f. Ornith.* 1908. p. 527 (Arumatheua, Tocantins) ; Berlepsch, *Nov. Zool.* xv. 1908. p. 131 (Cayenne).

R. sulphurescens (errore !) Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1867. p. 578 (Pará : vidi).

R. poliocephalus (nom. nud.) Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 110 (Barra do Rio Negro, Marabitanas, Rio Negro ; Bahia—vidi) ; Sclater, *Cat. Birds Brit. Mus.* xiv. p. 171 (part. : specimen ex Pará—Layard : vidi) ; Berlepsch & Hartert, *Nov. Zool.* ix. 1902. p. 47 (part.* : Nericagua, Maipures, Suapure).

R. megacephalus (errore) Layard, *Ibis* 1873. p. 383 (Pará : vidi) ; Taczanowski, *Orn. Pérou* ii. 1884. p. 283 (part. : Cayenne) ; Salvin, *Ibis* 1886. p. 501 (Rio Carimang, Brit. Guiana) ; Sclater, *Cat. Birds Brit. Mus.* xiv. p. 170.

R. klagesi Ridgway, *Proc. Biol. Soc. Wash.* xix. p. 115 (1906.—Maripa, Caura, Venezuela).

Hab. North Brazil : Arumatheua, on the R. Tocantins (Snethlage) ; Pará (Layard, Wallace), S. Antonio do Prata, near Pará (Hoffmanns) ; Marabitanas and Barra (= Manáos), on the Rio Negro (Natterer) ; Calama, Rio Madeira (Hoffmanns). East Brazil : Bahia (Kammerlacher coll., Mus. Vindob. ; Mus. Brit.†). Cayenne (Cherrie, Jelski). Surinam : near Paramaribo (Chunkoo coll. in Mus. Tring). British Guiana : Merumé, R. Carimang, Ourumee (Whitely). Venezuela : Nericagua and Maipures, R. Orinoco (Cherrie) ; Suapure, Maripa, Caura R. (Klages).

Characters. Cap nearly uniform slate-grey or very slightly suffused with olive-green ; back duller green than in *R. p. poliocephalus.* Lower parts pale yellow, underlaid with pale greyish on the chest ; throat and foreneck greyish white or, at least, strongly suffused with whitish.

Wing (♂) 55—60, (♀) 52—57 ; tail (♂) 45—52, (♀) 42—45 mm.

Obs. I am unable to discover any constant differences, connected with distribution, among a large number of skins from various localities. *R. klagesi* is clearly a synonym of *sclateri*, examples from the Caura being in every respect identical with the types. Moreover, Mr. Ridgway compares his alleged new form only with *R. sulphurescens*, from which it is, of course, quite distinct.

* The examples from La Pricion, Caura, turn out to belong to *R. s. sulphurescens.*

† *R. megacephalus* Sclater, *Cat. Birds Brit. Mus.* xiv. p. 170 : specimen *a.*

Examined: 1 ♂ ad., Manáos (*type*), 1 ♂ ad., 1 imm., Marabitanas, 1 ♂, 1 ♀, Bahia, in the Vienna Mus.; 1 ♂ ad., Nericagua, in Mus. H. v. B.; 2 ad. from Pará (Layard, Wallace coll.), 1 ad., Bahia, in the Brit. Mus.; 1 ♂ ad., Maipures, 1 ♂, 1 ♀, Suapure, Caura, 1 ♂, Ourumee, 3 ad., Paramaribo, Surinam, 1 ♂ ad., Prata, Pará, 1 ♀ ad., Calama, 2 ad., Cayenne, all in the Tring Museum.

115. **Pitangus lictor** (Licht.).

Lanius lictor Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 49 [1823.—Pará).
Pitangus lictor Hellmayr, *Nov. Zool.* xiv. p. 356 (Humaytha).

No. 535. ♀ ad., Jamarysinho, 11. ix. 1907. "Iris brown, feet and bill black." —Wing 80; tail 67; bill 20 mm.

This bird has a decidedly narrower bill than any of the numerous specimens before me, but does not otherwise differ.

[116. **Myiodynastes maculatus** (P. L. S. Müll.).

Muscicapa maculata P. L. S. Müller, *Natursyst.* Suppl. p. 169 (1776.—ex D'Aubenton, Pl. enl. 453. fig. 2: Cayenne).
Myiodynastes audax Pelzeln, *l.c.* p. 112 (Borba).

Right bank: Borba (Natterer).]

[117. **Onychorhynchus coronatus** (P. L. S. Müll.).

Cf. *Nov. Zool.* xiv. p. 356 (Humaytha).

Left bank: Humaytha (Hoffmanns).

The species occurs in French Guiana, Venezuela (Caura), Lower Amazonia, and Northern Peru.]

[118. **Myiobius barbatus barbatus** (Gm.).

Muscicapa barbata Gmelin, *Syst. Nat.* 1. ii. p. 933 (1789.—based on D'Aubenton, Pl. enl. 830. fig. 1: Cayenne).
Myiobius barbatus Pelzeln, *l.c.* p. 113 (Borba).

Right bank, Lower Madeira: Borba (Natterer).

A single adult male taken at Borba, February 25, 1829, resembles Cayenne skins, but is larger (wing 67; tail 64 mm.). The foreneck is faintly tinged with pale ochreous, as is also sometimes the case in specimens from French Guiana. For the present I must refer it to the typical race.]

119. **Myiobius barbatus mastacalis** (Wied).

Muscicapa mastacalis Wied, *Reise Brasil.* ii. p. 151 (1821.—R. Catolé, tributary of the Rio Pardo, Southern Bahia); cf. *Abhandl. Bayer. Akad. Wissensch. II. Cl.* vol. xxii. 3. pp. 641-2.
Myiobius barbatus barbatus (errore!) Hellmayr, *Nov. Zool.* xiv. p. 357 (Humaytha).

No. 910. ♀ ad., Maruins, 7. vi. 1908.—Wing 59½; tail 57½; bill 11½ mm.

No. 875. (♂) juv., Marmellos, 27. xii. 1907.—Wing 57; tail 55; bill 10 mm.

"Iris brown, feet greyish brown, bill dark grey or blackish, below pale grey."

No. 910, an adult female in full plumage, is very different from topotypical Cayenne skins of *M. b. barbatus* in the Munich Museum, and agrees pretty well with a female from Eastern Brazil (*M. b. mastacalis*). In both the throat, foreneck,

chest, sides, and under tail-coverts are ochreous buff, the middle of the lower breast and abdomen alone being pale sulphur-yellow; crown and mantle dull brownish olive. The specimens from Humaytha and Marmellos also show a decided ochreous tinge on throat, chest, etc., though to a lesser degree.

120. **Myiobius erythrurus fulvigularis** Salv. & Godm.

[*Myiobius erythrurus* Cabanis in *Arch. Naturg.* 13. i. p. 249. pl. 5. fig. 1 (1847.—Guiana, Cayenne).]

Myiobius fulvigularis Salvin & Godman, *Biol. Centr. Americ.* ii. p. 58 (1889.—Santa Fé, Veragua).

M. erythrurus (errore !) Pelzeln, *l.c.* p. 114 (Engenho do Gama, Borba, Marabitanas, Rio Içanna).

Nos. 67, 80, 207. ♂♂ ad., Calama, 17, 19. vi., 12. vii. 1907.—Wing 49—51; tail 40—42; bill 8—9 mm.

No. 929. Adult, Maruins, 14. vi. 1908.—Wing 50; tail 42; bill 7½ mm.

"Iris brown, feet brown or greyish brown, bill grey."

The series agrees with examples from Teffé, Bogotá, etc. Natterer's specimens from the Madeira and Rio Negro belong likewise to this form. Cf. my remarks in *Nov. Zool.* xiv. p. 48.

121. **Pyrocephalus rubinus rubinus** (Bodd.).

Muscicapa rubinus Boddaert, *Tabl.* Pl. enl. p. 42 (1783.—ex Buffon: "Pays des Amazones").

Pyrocephalus r. rubinus Hellmayr, *Nov. Zool.* xiv. p. 357 (Humaytha).

No. 297. ♂ juv., Calama, 29. vii. 1907. "Iris brown, feet and bill black."

Widely distributed in Brazil and Upper Amazonia.

122. **Empidonax lawrencei** Allen.

Empidonax lawrencei Allen, *Bull. Amer. Mus. N.Y.* ii. p. 150 (1889.—based on *Ochthoeca flaviventris* Lawrence, *Ann. New York Acad. Sci.* iv. 1887. p. 67: loc. ign.); cf. Hellmayr, *Nov. Zool.* xiii. 1906. p. 25 (crit.); idem, *l.c.* xiv. 1907. p. 357 (Humaytha).

Empidochanes fuscatus (errore ! nec *Muscipeta fuscata* Wied) Pelzeln, *Zur Orn. Bras.* ii. p. 115. note 1 (part.: specimen ex Borba, February 7, 1830).

No. 148. ♂ ad., Calama, 2. vii. 1907. "Iris brown, bill black, below grey."—Wing 62; tail 58; bill 13 mm.

This bird is practically identical with specimens from Trinidad and Venezuela, the under parts being bright yellow, the chest and sides strongly tinged with olive-green. An adult obtained by Mr. Hoffmanns at Humaytha, on his first journey to the Rio Madeira, and an immature male from Borba secured by Natterer, are paler yellow on the belly, and the chest is scarcely shaded with greenish.

123. **Empidonax euleri euleri** (Cab.).

Empidochanes euleri Cabanis, *Journ. f. Orn.* 1868. p. 195 (1868.—Cantagallo, prov. Rio de Janeiro, S.E. Brazil).

E. fuscatus (errore ! nec *Muscipeta fuscata* Wied) Pelzeln, *l.c.* p. 115 (part.: specimen ex Borba, June 23, 1830; Rio de Janeiro, Ypanema, etc.).

No. 76. ♂ ad., Calama, 19. vi. 1907.—Wing 69; tail 64; bill 13 mm.

No. 680. ♀ juv., S. Isabel, Rio Preto, 11. x. 1907.—Wing 63; tail 56; bill 13 mm.

"Iris brown, feet and bill black, lower mandible white (No. 76), yellowish grey (No. 680)."

Perfectly agreeing with specimens from S. Paulo and Mattogrosso (Chapada).

E. e. euleri differs from *E. lawrencei* by its rufous brown or russet (instead of greenish olive) upper parts, and much paler lower surface, nearly whitish in the middle of the abdomen. Natterer's specimen from Borba belongs likewise to the present species. Its range is given by Berlepsch & Hellmayr in *Journ. f. Ornith.* 1905. p. 23.

With regard to *E. euleri argentinus* (Cab.), I may mention that additional specimens from Argentine in the Tring and Munich Museums do not bear out all the characters shown by the type (cf. *loc. cit.* p. 23). They are by no means smaller than *E. e. euleri*, but the upper parts are decidedly duller, less rufescent, and the belly is whitish with very little, if any, yellowish tinge on the flanks. An adult male from Chuchurras, prov. Huánuco, Peru (W. Hoffmanns coll.), in the Tring Museum, agrees in every respect with Argentine skins, while another from Pebas, N. Peru (Hauxwell coll.), in the British Museum, is undoubtedly referable to *E. e. euleri !* More material is required to establish the validity of this form or otherwise.

124. **Empidochanes fuscatus bimaculatus** (Lafr. & D'Orb.).

[*Muscipeta fuscata* Wied, *Beitr. Naturg. Bras.* 3. ii. p. 902 (1831.—Rio de Janeiro).]
Muscipeta bimaculata Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* cl. ii. p. 48 (1837.—Yungas, Bolivia) ; cf. Berlepsch & Hellmayr, *Journ. f. Ornith.* 1905. pp. 21-22 (crit.).
Empidochanes fringillaris Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 116 (part.: Borba ; Rio Paraná, Goiaz, Cuyabá).
E. fuscatus bimaculatus Hellmayr, *Nov. Zool.* xiv. 1907. p. 354 (Humaytha).

Nos. 499, 549. ♀♀, Calama, 31. viii. 1907 ; Jamarysinho, 13. ix. 1907.—Wing 65, 67 ; tail 60, 61 ; bill 17 mm.

"Iris brown, feet plumbeous, bill blackish."

Similar, in coloration and size, to specimens from Mattogrosso (Chapada) and Northern São Paulo. The lower parts are white with the chest tinged with pale brownish grey, and the flanks very pale yellowish. Natterer obtained a young male at Borba, March 3, 1831, which does not differ either from Mattogrosso skins in corresponding plumage.

E. f. bimaculatus ranges from Eastern Bolivia (Yungas) through Central Brazil (Madeira district ; Mattogrosso : Cuyabá, Chapada *) east to Goyaz (city of Goiaz ; Rio Thesouras, Araguaya †) and south to the valleys of the Paraná, Paranápanema, and Rio Grande in Northern São Paulo.‡

In Central and Southern São Paulo, however, the typical race, *E. f. fuscatus* (Wied), is met with. I have examined a series from Ypanema, and examples from S. Sebastião, Ubatúba, and Rio Feio.

Snethlage's record of *E. fuscatus* § from Goyana, Tapajóz, is most probably referable to the pale, western race *E. f. bimaculatus*.

125. **Myiarchus ferox ferox** (Gm.).

Muscicapa ferox Gmelin, *Syst. Nat.* 1. ii p. 934. excl. var. β (1789.—ex Brisson : Cayenne).
Myiarchus ferox Pelzeln, *l.c.* p. 116 (part. : Borba, Marabitanas).

No. 378. ♀ ad., Calama, 11. viii. 1907. "Iris light brown, feet and bill black." Wing 84 ; tail 85 ; bill 19 mm.

* *E. fuscatus* Allen, *Bull. Amer. Mus. N.Y.* iv. 1892. p. 340.

† Hellmayr, *Nov. Zool.* xv. 1908. p. 52.

‡ I have examined specimens from Barretos (near the Rio Grande), Rio Grande ; Salto Grande, Rio Paranápanema ; S. Jeronymo and Itapurá, on the Rio Tieté.

§ *Journ. f. Orn.* 1908. p. 503.

In the Vienna Museum there are, besides a large suite from South-Eastern Brazil, an immature male from Borba (March 3, 1830) and an adult male from Marabitanas, Rio Negro (April 4, 1831). These three skins agree, in colour and size, with topotypes from Cayenne. Birds from Southern Brazil (Bahia, Rio, São Paulo, Paraná) are somewhat lighter above, especially the cap paler and less sooty, and the bill is, as a rule, horn-colour instead of black. They are entitled to the name *M. ferox cantans* Pelz.*

126. **Myiarchus tuberculifer tuberculifer** (Lafr. & D'Orb.).

Tyrannus tuberculifer Lafresnaye & D'Orbigny, *Syn. Av.* i. in *May. Zool.* cl. ii. p. 43 (1837.—Guarayos, Eastern Bolivia); cf. Hellmayr, *Nov. Zool.* xiii. 1906. pp. 323-4 (crit.).

No. —. ♂ vix ad., Marmellos, 24. xii. 1907. "Iris greyish brown, feet and bill black."—Wing 75; tail 72; bill 17 mm.

In addition, I have examined in the Vienna Museum an adult male obtained by Natterer at Borba, March 1, 1830, which had been overlooked by Pelzeln in his report. Both represent typical *tuberculifer* as defined by me (*l.c.*).

127. **Tyrannus melancholicus melancholicus** Vieill.

Tyrannus melancholicus Vieillot, *Nouv. Dict.* xxxv. p. 84 (1819.—ex Azara : Paraguay).

No. 525. Av. jr., Calama, 7. ix. 1907. "Iris brown, feet and bill black."

128. **Muscivora tyrannus** (Linn.).

Muscicapa Tyrannus Linnaeus, *Syst. Nat.* xii. 1. p. 325 (1766.—ex Brisson : "Canada (errore !) et *Cayenna*").
Muscivora tyrannus Hellmayr, *Nov. Zool.* xiv. p. 358 (Humaytha).

No. 440. ♂ ad., Calama, 22. viii. 1907.

Nos. 435, 436. ♀ ♀ ad., Calama, 20. viii. 1907. "Iris brown, feet and bill black."

[129. **Piprites chloris chlorion** (Cab.).

[*Pipra chloris* Temminck, Pl. col. 172. fig. 2 (1822.—Brésil, sc. Ypanema, S. Paulo).]
Hemipipo chlorion Cabanis, *Arch. Naturg.* 13. i. p. 234 (1847.—Cayenne).
Piprites chlorion Pelzeln, *Zur Orn. Bras.* ii. p. 126 (part. : Borba, Salto Girao ; Engenho do Gama, Rio Guaporé).

An adult male from Borba, obtained by Natterer in August 1830, belonging to the Vienna Museum, agrees with a male from Quonja, Brit. Guiana, October 12, 1887 (H. Whitely coll., Mus. H. v. Berlepsch), in the coloration of the lower parts : throat and under tail-coverts clear yellow, breast pale cinereous, middle of the abdomen very pale yellowish ; but it has the grey of the nape slightly mixed with olive-green, and the rectrices more conspicuously tipped with yellowish white. A female from Cussary, a village on the south bank of the Amazons opposite Monte Alegre, is exactly like the one from Borba except in having the nape olive-green like pileum and back, without any grey. Its very dark, nearly blackish, bill seems to be a sign of immaturity.

The two males from Salto Girao, farther up the Rio Madeira, and Engenho do Gama, on the Rio Guaporé, in the Vienna Museum, have the cinereous breast distinctly washed with pale yellow, the abdomen brighter yellow, and the bill

* *Myiarchus cantans* Pelzeln, *l.c.* pp. 117, 182 (1868.—Rio de Janeiro, Ypanema, Curitiba)

much smaller. They appear to represent a different race; unfortunately both are immature.

Good series from various localities are required to establish the geographical forms of *P. chlorion*.]

130. **Pipra aureola flavicollis** Scl.

Pipra flavicollis Sclater, *Contrib. Ornith.* for 1851. p. 143 (1852.—"Barra do Rio Negro"—locality erroneous; cf. *Ibis* 1906. p. 8).
P. aureola (nec Linnaeus!) Pelzeln, *l.c.* p. 126 (part.: Borba).
P. aureola flavicollis Hellmayr, *Nov. Zool.* xiv. p. 358 (Humaytha).

No. 854. ♂ ad., Marmellos, 23. xii. 1907. "Iris white, feet dark red, bill black."—Wing 61½; tail 28; bill 9 mm. (Munich Museum.)

Perfectly agreeing with the Humaytha series obtained by Mr. Hoffmanns on his first trip to the Rio Madeira, and differing in the same way from a large series of *P. a. aureola* from Surinam, Cayenne, Marajó, Monte Alegre, and Manáos.

Mr. Hoffmanns met with *P. a. flavicollis* exclusively on the left bank of the Rio Madeira (Marmellos, Humaytha), while, on the right bank, other forms were found. Hence it is to be presumed that Natterer's examples also might have been taken on the left side of the river, opposite Borba, and not in the immediate neighbourhood of that settlement.

131. **Pipra aureola fasciicauda** Hellm.

Pipra fasciicauda Hellmayr, *Ibis* (8) vi. p. 9 (1906.—new name for *P. fasciata* Lafr. & D'Orb. preoccupied: type from Yuracarès, East Bolivia).

Nos. 917, 918. ♂♂ ad., Maruins, Rio Machados, 9. vi. 1908. "Iris white, feet brown, bill black."—Wing 65, 63½; tail 28, 29; bill 9½, 10 mm. (Munich Museum.)

The two specimens are practically identical with a very large series from Eastern Bolivia (types) and Western Brazil (Chapada, R. Guaporé, and Rio Paraná). All of the rectrices are banded with yellowish white on both webs, the orange-yellow throat-feathers faintly tipped with red; the chest is strongly washed with crimson, while abdomen and under tail-coverts are clear yellow, the latter with narrow, sooty blackish tips. The adult male from Itaitúba, left bank of the R. Tapajóz,* kindly submitted for my inspection by Dr. Hartert, is also perfectly similar.

132. **Pipra aureola calamae** n. subsp.

Nos. 2, 399, 445. ♂♂ ad., Calama, 8. vi., 15, 23. viii. 1907. "Iris white, feet dark brown, bill blackish or plumbeous."—Wing 64—65; tail 27—28; bill 10 mm.

Nos. 167, 239, 335. ♀♀ ad., Calama, 5, 18. vii., 5. viii. 1907. "Iris yellowish white, feet brown, bill plumbeous."—Wing 63—64; tail 27, 29, 31; bill 9½—10 mm.

Nos. 754, 757. ♂ juv., ♀ imm., Allianca, 6, 7. xi. 1907. "Iris whitish, feet reddish brown, bill black."—Wing (♀) 60, (♂) 65; tail (♀) 29, (♂) 31 mm.

Nos. 682, 713. ♀ imm., ♂ juv., S. Isabel, Rio Preto, 11, 17. x. 1907. "Iris yellowish or dingy white."

♂ ad. Similar in tail-markings to *P. aureola purusiana* Snethl.,† from which it

* Cf. *Nov. Zool.* xiv. 1907. p. 12.

† *P. fasciicauda purusiana* Snethlage, *Orn. Monber.* xv. p. 160 (1907.—type from Ponto Alegre, Rio Purús, W. Brazil).

is very easily distinguished by having not only a narrow frontal edge, but the whole anterior portion of the crown orange-yellow without any red; the breast deeper crimson; the flanks strongly shaded with olive; and especially by the deeper yellow of the abdomen and under tail-coverts being strongly suffused with crimson.

♀ ad. Not distinguishable from those of *P. a. fasciicauda* and *P. a. purusiana*.

Type in Tring Museum: ♂ ad., Calama, 23. viii. 1907 (W. Hoffmanns coll., No. 445).

The three adult males present very little variation *inter se*. In one specimen (No. 2) the two central pairs of rectrices are uniform black; the next has a distinct white patch near the base of the inner web; the three remaining ones are, on both webs, banded with yellowish white. In the two other examples (Nos. 399, 445) the innermost rectrix alone is wholly black, while the two next pairs show a white patch on the inner web. Otherwise they resemble No. 2. The under tail-coverts have long black tips, as in *P. a. purusiana*. That No. 757 (♂ juv.) from Allianca belongs to this new form, and not to *P. a. fasciicauda*, is proved by several just appearing new feathers on the abdomen being mainly crimson (not uniform clear yellow as in the latter form), and by the colour of the already assumed shorter under tail-coverts, which are yellow, tipped and edged with crimson, exactly as in the adult males from Calama.

This interesting new form approaches *P. a. flavicollis*, from the left bank of the Rio Madeira, by the coloration of the head and by the middle of the abdomen being suffused with crimson, yet it can readily be distinguished by having the flanks yellow mixed with olive (instead of deep black), the under tail-coverts bright yellow with crimson edges and long black tips (not uniform black), as well as by the white cross-bands on the outer rectrices.

It is a remarkable fact that the environs of Calama are inhabited by a peculiar race different from *P. a. fasciicauda*, which is met with on the Rio Machados above the waterfalls.

The group of *Pipra aureola* affords so excellent an example of geographical variation that I deemed it interesting to append a condensed review of the various forms and their characters.

(*a*) *Pipra aureola aureola* (Linn.).

Parus Aureola Linnaeus, *Syst. Nat.* x. p. 191 (1758.—based on Edwards, *Nat. Hist. Birds* ii. p. 83. pl. 83. fig. 2: "from some part of South America, near the equinoctial line"—*Surinam* fixed as type locality).

Hab. Cayenne; Surinam; British Guiana; N.E. Venezuela: Guanoco (Orinoco delta), El Pilar near Carúpano, State of Cumaná; Lower Amazonia, from Marajó to Manáos (Barra do Rio Negro).

♂ ad. Head above except a narrow orange-yellow frontal band crimson; cheeks and ear-coverts strongly washed with crimson; chin and upper throat deep orange-yellow, the tips of the feathers more or less red; foreneck and breast deep crimson; abdomen and under tail-coverts black, middle line of abdomen narrowly pale red, flammulated with whitish. Tail black, outermost rectrix sometimes with a narrow white streak on the outer web near the shaft. Wing of twenty specimens 62—65; tail 28—32 mm.

Obs. Three males from Manáos (Natterer coll., Vienna Museum) have very

little yellow on forehead and throat, but they are very nearly matched by several examples from Surinam, etc.

With regard to the ♂ ad. from Santarem (Natterer coll., Vienna Museum) I have made a erroneous statement in *The Ibis* for 1906, p. 8, repeated in *Nov. Zool.* xiv. 1907. p. 358, in asserting that it was in every respect typical of *P. aureola*. On the contrary, a renewed examination of the specimen proved it to be somewhat intermediate between *aureola* and *fasciicauda*, hitherto regarded as distinct species, though I had suspected their subspecific affinities for a long time. While agreeing with average examples of *aureola* from Surinam, etc., in general coloration, especially in the black sides and under tail-coverts, it resembles Peruvian specimens of *P. a. purusiana* in the markings of the tail, viz. outermost rectrix with a white band across both webs, the two next ones with a white patch at the base of the inner web, though the latter is not quite so much extended as in the western bird. Further material is required to show whether the presence of white on the outer rectrices is a constant feature in birds from Santarem, and it would be unwise to base a new form upon a single skin. At all events, Natterer's example is of great interest, proving as it does the near relationship of *aureola* and *fasciicauda*, which henceforth can be regarded as only subspecifically distinct.

(*b*) *Pipra aureola flavicollis* Scl.

Hab. Left bank of the Rio Madeira, Brazil: Humaytha, Marmellos (Hoffmanns).

For the locality Borba (Natterer) see above, p. 303.

♂ ad. Agrees with *P. a. aureola* in having the sides, under tail-coverts, and the rectrices black; but the red area in the middle of the abdomen is rather more extended, as well as more decidedly flammulated with whitish or yellowish; the front and sides of the head and the throat are clear yellow, with but a little red near the upper and posterior edge of the ear-coverts. (Cf. *Nov. Zool.* xiv. 1907. p. 358.) Wing of nine males 62—64½; tail 27—30 mm.

Examined: 1 ♂ ad., "Barra" (type of subspecies); 2 ♂♂ ad., "Borba" (Natterer); 4 ♂♂ ad., 1 ♂ vix ad., Humaytha, 1 ♂ ad., Marmellos (Hoffmanns).

(*c*) *Pipra aureola fasciicauda* Hellm.

Hab. Eastern Bolivia, headwaters of the Rio Mamoré: Yuracarès, Guarayos, Santa Cruz de la Sierra (D'Orbigny), San Mateo (G. Garlepp in Mus. H. v. Berlepsch). Central and Western Brazil from the Paraná, Paranapanema, and Paranahyba Rivers (Araguary) in the south, northward to Goyaz (Natterer, Baer) and Mattogrosso (Chapada; Villa Maria on the Rio Paraguay; Villa Bella de Mattogrosso and Engenho do Gama, on the banks of the Rio Guaporé). Also obtained by Mr. W. Hoffmanns near Maruins, above the waterfalls of the Rio Machados, right-hand tributary of the Rio Madeira, and at Itaitúba, left bank of the Rio Tapajóz. (Cf. also *Nov. Zool.* xv. 1908. p. 54.)

♂ ad. Differs from the two preceding races by having no black whatever on the belly, the whole abdomen below the crimson breast being clear yellow, and the under tail-coverts yellow with narrow, dull black tips or edges. Moreover, the rectrices are crossed by a broad, uninterrupted band of white or pale yellowish, reaching over both webs. In the coloration of the throat and sides of the head, this form is intermediate between *aureola* and *flavicollis*, but nearer the latter. Throat

and foreneck are clear yellow, with, however, slight pale red tips to the feathers; there is usually a little more crimson on the ear-coverts, and the yellow of the forehead is less pure as well as less extended than in *P. a. flavicollis*. Wing 63½—66; tail 28—32 mm.

Obs. In a considerable series the characters as given above are quite constant. The abdomen is invariably clear yellow, without any red, and decidedly contrasted with the crimson breast; the under tail-coverts are likewise yellow narrowly tipped or edged with dull black; all of the rectrices show a broad whitish or yellowish band across both webs. The feathers of the throat and foreneck are more or less conspicuously, though slightly, tipped with pale red. As stated above (p. 303) the birds from Itaitúba and Maruins are perfectly similar to topotypical specimens from Eastern Bolivia.

Examined: 4 ♂♂ ad., Faz. Cayoá, Salto Grande, Rio Paranapanema, 3 ♂♂ ad., Chapada, Mattogrosso, 1 ♂ ad., Engenho do Gama, Rio Guaporé, 2 ♂♂ ad., Maruins, all in the Munich Museum; 1 ♂ ad., Faz. Cayoá, 3 ♂♂ ad., Rio Jordão, Paranahyba (Araguary), 1 ♂ vix ad., Itaitúba, in the Tring Museum; 5 ♂♂ ad. from Engenho do Gama, Villa Bella de Mattogrosso, Villa Maria, Rio Paraná, and Goiaz, in the Vienna Museum; 1 ♂ ad., Guarayos, E. Bolivia, *type of species*, in the Paris Museum; 2 ♂♂ ad., San Mateo, Bolivia, in Mus. H. v. Berlepsch.

N.B.—I have not seen examples from the Tocantins, where both Wallace * and Snethlage † met with the species.

(*d*) *Pipra aureola purusiana* Snethlage.

P. fasciicauda purusiana Snethlage, *Orn. Monber.* xv. p. 160 (1907.—Ponto Alegre, Rio Purús).

Hab. W. Brazil: Bom Lugar, Ponto Alegre, Monte Verde on the Rio Purús. Eastern Peru: Ucayali (Bartlett). Central Peru: Chuchurras, Huánuco (Hoffmanns).

♂ ad. Agrees with *P. a. fasciicauda* in the clear yellow abdomen without any black or red, but differs at a glance by having the central rectrices uniform black and the black tips to the under tail-coverts much wider. The yellow of the throat and foreneck is bright yellow without red tips, like *P. a. flavicollis*, while the front and sides of the head are more like *P. a. fasciicauda*.

Five adult males from the Rio Purús (incl. the type) measure: wing 64—65; tail 26—29 mm.

Five adult males from Peru (Ucayali, Chuchurras) measure: wing 63—64; tail 28—30 mm.

Obs. In specimens from the Purús the **two** or **four median rectrices** are uniform black, the two or three outer pairs are banded with white (or yellowish) on both webs, while the intervening ones have a white patch near the base of the inner web. In Peruvian skins the **six median rectrices** are without any white, otherwise they agree with the Brazilian ones.

(*e*) *Pipra aureola calamae* Hellm.

Hab. Brazil, right bank of the Rio Madeira: Calama, Allianca, São Isabel.

♂ ad. Agrees with Purús specimens of *P. a. purusiana* in the markings of the tail, but has the whole anterior portion of the crown orange-yellow, the breast

* Sclater & Salvin, *P. Z. S.* 1867. p. 579: *P. fasciata.*

† Snethlage, *Journ. f. Orn.* 1908. p. 528: *P. fasciicauda.*

deeper crimson, the flanks strongly washed with deep olive, and especially the deep yellow abdomen and basal portion of under tail-coverts much suffused with crimson. Wing 64—65 ; tail 27—28 mm.

133. **Pipra rubrocapilla** Temm.

Pipra rubrocapilla Temminck, *Rec. Pl. col.* tab. 54. fig. 3 (1821.—"Brésil" ; we fix *Bahia* as typical locality) ; Pelzeln, *l.c.* p. 127 (Borba).

Nos. 140, 141. ♂♂ ad., Calama, 1 vii. 1907.—Wing 60, 62 ; tail 31½, 32 mm.
No. 142. ♂ imm., Calama, 1. vii. 1907.—Wing 60 ; tail 32 mm.
No. 282. ♂ juv., Calama, 28. vii. 1907.
No. 776. ♂ juv., Allianca, 11. xi. 1907.
No. 928. ♂ ad. Maruins, Machados, 12. vi. 1908.—Wing 62 ; tail 33 mm.

"Iris dingy white (♂♂ ad.) or brown (♂♂ imm. and juv.), feet pale grey or yellowish grey, bill grey."

The adult males have the forehead and crown distinctly paler and more orange than the nape and sides of the head, agreeing in that respect with Pará examples (cf. *Ibis* 1906. p. 13, and *Nov. Zool.* xiv. 1907. p. 49). No. 142, in the greenish plumage of the female, shows some black feathers on the mantle and rump, and the head is mostly red.

[134. **Pipra caelesti-pileata** Goeldi.*

Cf. *Nov. Zool.* xiv. 1907. p. 359 (Humaytha).

Left bank of the Rio Madeira : Humaytha (Hoffmanns).

Not obtained on the present expedition. The differences between this species and *P. exquisita* Hellm. are fully stated *l.c.*]

135. **Pipra nattereri** Scl.

Pipra nattereri Sclater, *Proc. Zool. Soc. Lond.* 1864. p. 611. tab. 39 (1865.—Borba) ; Pelzeln, *l.c.* p. 127 (Borba, Rio Madeira ; Engenho do Gama, Rio Guaporé) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 360 (Borba).

P. gracilis Hellmayr, *Verhandl. Zool. Bot. Gesellsch. Wien* liii. p. 202 (1903.—Engenho do Gama, Rio Guaporé), descr. ♀.

Nos. 11, 139, 149, 151, 179, 189, 198, 206, 212, 221, 321, 350. ♂♂ ad., Calama, June, July, August 1907.—Wing 52—54 ; tail 26—29 ; bill 8—9 mm.

No. 710. ♂ ad., S. Isabel, Rio Preto, 16. x. 1907.—Wing 52 ; tail 26 mm.

No. —. ♂ ad., Allianca, November 1907.—Wing 52 ; tail 26 mm.

Nos. 554, 580, 581. ♂♂ ad., Jamarysinho, Rio Machados, 21. ix. 1907.—Wing 52—53 ; tail 25—27 ; bill 9 mm.

Nos. 190, 274. ♀♀ ad., Calama, 8, 26. vii. 1907.—Wing 52, 54 ; tail 30 ; bill 8½, 9 mm.

* In a very curious paper (*Boletim Mus. Goeldi* v. 1908. pp. 85-91) Dr. Goeldi emphatically declares that this bird was described by him in 1904. Against this I have only to say that the first published **description** of *P. caelesti-pileata* is to be found in the *Comptes Rendus Six. Congr. Internat. Zool. Berne* p. 549, dated May 25, 1905, though the volume did not appear until October or November of that year. In the 7th Supplement (February 1904) to Dr. Goeldi's *Verzeichnis der bisher wissenschaftlich beschriebenen neuen Thier- und Pflanzenformen*, where the name first appears in print, it is an absolute *nomen nudum*. The fact that Dr. Goeldi used the name *P. caelesti-pileata* in 1904 in labelling his specimens, and that the proofs of his paper are stamped "September 1904," has no bearing whatever on the case, for zoological literature has only to deal with the dates of actual publication, as is well known to everybody familiar with the International Rules of Nomenclature. With regard to the footnote on p. 89, I am rather surprised to learn that Dr. Goeldi is not acquainted with the *Bulletin of the Brit. Orn. Club*, where he would have found a **full description** of *P. exquisita* (**actually** published March 24, 1905).

Nos. 753, 788. ♀ ♀ ad., Allianca, 6, 15. xi. 1907.—Wing 52, 53; tail 26, 29; bill 9 mm.

"Iris white or yellowish white, feet greyish yellow or pale yellow, bill blackish or grey, tip and lower mandible paler."

The majority of the adult males have the milky white cap laterally and posteriorly bordered by a narrow, pale bluish line; in these specimens the back is of a darker green, and the anterior portion of the white rump is faintly shaded with delicate bluish. In Nos. 554, 580, 581, 139, and in the Allianca example the pale bluish edge of the cap is replaced by an indistinct yellowish green line, the back is of a clearer, less intense green, and the white rump lacks the bluish tinge.

The series of females proves beyond doubt that my *P. gracilis* was based on an individual variety of *P. nattereri*. The two from Calama are quite typical, having the crown washed with dull bluish, and the throat as well as the foreneck strongly suffused with green; while those from Allianca have no bluish tinge on the crown, like the type of *P. gracilis*, with which one of them also agrees in the light, yellowish green colour of the throat.

Until recently *P. nattereri* was only known from the Rio Madeira, where it is confined to the right bank (from Borba to Allianca, and probably farther up the river, for the type of *P. gracilis* was obtained on the Rio Guaporé). Miss Snethlage, however, has lately found it at Villa Braga, on the left bank of the neighbouring Rio Tapajóz.*

136. **Pipra stolzmanni** Hellm.

Pipra stolzmanni Hellmayr, *Ibis* (8) vi. p. 44 (1906.—Marabitanas, Rio Negro); idem, *Nov. Zool.* xiv. 1907. p. 360 (Paraizo, Borba).

P. virescens (nec Pelzeln) Pelzeln, *Zur Orn. Bras.* ii. pp. 128, 187 (part. : Borba).

No. 981. ♂ ad., Maruins, Rio Machados, 8. vii. 1908. "Iris dingy white, feet and bill black."—Wing 51; tail 23; bill 10 mm.

Structure of the tail and coloration exactly as in the type and other specimens (from Bogotá, Borba, etc.). In the middle of the anterior crown there are a few minute, yellowish dots to be seen.

P. stolzmanni has, as yet, only been found on the right bank of the Rio Madeira, but as it is also met with in Eastern Peru and Ecuador, it is very likely to occur on the left bank as well.

[137. **Neopipo cinnamomea** (Lawr.).

Cf. Hellmayr, *Nov. Zool.* xiv. 1907. p. 361 (Humaytha).

Left bank : Humaytha (Hoffmanns). Not obtained on the present occasion.]

[138. **Xenopipo atronitens** Cab.

Xenopipo atronitens Cabanis, *Arch. f. Naturg.* 13. i. p. 235 (1847.– British Guiana); Pelzeln, *Zur Orn. Brasil.* ii. p. 129 (Borba).

Right bank : Borba, in the forest of the Campina (Natterer). Not obtained by Mr. Hoffmanns.

N.B.—I am unable to detect any differences between typical Guianan skins (R. Rupununi, H. Whitely coll.) and those secured by Natterer on the Madeira and Rio Negro.]

* *Journ. f. Orn.* 1908. p. 504.

139. **Chiroxiphia regina** Scl.

Chiroxiphia regina (Natterer MS.) Sclater, *Ann. Mag. Nat. Hist.* (2) xvii. p. 469 (1856.—Borba, Rio Madeira); Pelzeln, *l.c.* p. 129 (Borba); Hellmayr, *Nov. Zool.* xiv. 1907. p. 361 (Humaytha, Paraiso).

No. 58. ♂ perad., Calama, 17. vi. 1907. "Iris reddish brown, feet greyish red, bill black."—Wing 74; tail 36; bill 9 mm.

No. 19. ♂ juv., Calama, 11. vi. 1907. "Iris dark red, feet light greyish red, bill black."—Wing 70; tail 34; bill 9⅓ mm.

Nos. 32, 260, 334. ♀♀ ad., Calama, 13. vi., 24. vii., 5. viii. 1907. "Iris brown or red, feet red, bill black."—Wing 67—70; tail 34; bill 9—9½ mm.

No. 953. ♀ ad., Maruins, 28. vi. 1908. "Iris brown, feet dark red."—Wing 71; tail 36; bill 9½ mm.

The adult male has the black frontal band fully as broad, and the crest as deep golden yellow, as the specimens from the left bank (Humaytha) obtained by Mr. Hoffmanns on his first journey in 1906. Those from Paraiso with narrower black frontlet and more lemon-yellow crest, though in full breeding plumage, are apparently not quite adult. This is enhanced by the fact that the young male, still in the green juvenile plumage, has the crest of the same pale yellow hue.

C. regina is a perfectly distinct form, though it may prove to be merely a geographical representative of the *C. pareola* group. Mr. De Witt Miller, in his excellent monograph of the genus *Chiroxiphia*,* has suggested that *C. regina* might be closely allied to *C. napensis* Miller, from Eastern Ecuador. On comparison of the two species, I find this surmise to be quite correct. *C. regina* differs from *C. p. pareola* and *C. p. atlantica*, but agrees with *C. napensis* in its rather short crest, dark azure-blue mantle, and dark reddish (instead of yellow) legs and feet. Unfortunately I have not seen the female of *C. napensis*. That of *C. regina* differs at a glance from those of *C. p. pareola* and *C. p. atlantica* by having the upper parts of a much brighter olive-green, and the lower ones, including the under tail-coverts, nearly uniform oil-green. The range of *C. regina* extends over the area comprised between the Rio Solimoëns in the north, the Javarri to the west, and the Rio Madeira to the east. No other species of *Chiroxiphia* is known to occur within this district.

140. **Chiromachaeris manacus purus** (Bangs).

[*Pipra manacus* Linnaeus, *Syst. Nat.* xii. 1. p. 340 (1766.—based on "The Black-capped Manakin," Edwards, *Glean. Nat. Hist.* i. p. 107. pl. 260: Surinam, and on Brisson, *Orn.* iv. p. 442: Cayenne).]

Manacus manacus purus Bangs, *Proc. New Engl. Zoöl. Cl.* i. p. 36 (1899.—Santarem, on the Amazon River, Brazil).

Chiromachaeris manacus (nec Linnaeus) Pelzeln, *l.c.* p. 130 (Borba, Engenho do Gama, São Vicente).

No. 112. ♂ ad., Calama, 27. vi. 1907.—Wing 52; tail 30; bill 9 mm.

No. 604. ♂ ad., Jamarysinho, Rio Preto, 1. x. 1907.—Wing 52; tail 30; bill 9 mm.

Nos. 639, 652, 693. ♂♂ ad., S. Isabel, Rio Preto, 8, 9, 13. x. 1907.—Wing 51—52; tail 30; bill 9 mm.

In addition, I have examined Natterer's series in the Vienna Museum, consisting of three adult males from Borba, a couple from Engenho do Gama, Rio Guaporé, and a female from São Vicente. The specimens from the Rio Madeira agree with a large suite from Pará and Maranhão (Miritiba), in the Munich Museum,

* *Bull. Amer. Mus. N. H. New York* xxiv. 1908. pp. 331-44.

in having the under tail-coverts as well as the middle of the belly pure white, and the whole rump grey like the upper tail-coverts ; but differ slightly by the darker grey of the flanks and rump, as also by the decidedly wider black area of the mantle, the white nuchal band being consequently rather narrower. These differences are not very strongly pronounced, and may prove to be independent of locality. At all events, a series from Santarem should be examined before attempting any subdivision.

Examples from the north bank of the Amazon (Monte Alegre, Manáos), and from Barcellos, on the Rio Negro, belong, however, to typical *C. m. manacus* (L.), and are exactly like others from Surinam and Cayenne. The under tail-coverts are grey ; the flanks darker and more extensively grey ; the middle of the abdomen mixed with pale cinereous (instead of being pure white) ; the black colour of the mantle much more extended, the grey being nearly restricted to the upper tail-coverts.

The range of *C. m. purus*, according to our present knowledge, is as follows : N.E. Brazil, Maranhão : Miritiba (Schwanda coll. ; Munich Museum) ; Pará : city of Pará (Snethlage, Wallace, Layard), Marca da Legua (Steere), Maguary, Marajó (Steere), San Antonio do Prata (Hoffmanns), Ourèm, on the Rio Guamá (Schulz coll. ; Mus. H. v. B.) ; Amazonia : Santarem, south bank of the Amazon (Riker) ; Rio Madeira : Borba (Natterer), Calama, Jamarysinho, S. Isabel, Rio Preto (Hoffmanns), Engenho do Gama and S. Vicente, on the Rio Guaporé (Natterer).

N.B.—Peruvian specimens, which I have not seen, may also be referable to the present form.

141. **Schiffornis major** Des Murs.

Schiffornis major (Bonaparte MS.) Des Murs in Castelnau's *Voyage, Oiseaux*, p. 66. pl. xviii. fig. 2 (1856.—Sarayaçu, Eastern Peru) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 362 (Borba ; crit.).
Heteropelma rufum Pelzeln, *Zur Orn. Bras.* ii. p. 185 (1868.—Borba).

No. 64. ♂ vix ad., Calama, 17. vi. 1907.—Wing 83½ ; tail 60½ ; bill 14½ mm.
No. 439. ♀ ad., Calama, 22. viii. 1907.—Wing 82 ; tail 63 ; bill 14 mm.
No. 715. ♀ ad., S. Isabel, Rio Preto, 17. x. 1907.—Wing 78 ; tail 59 ; bill 14 mm.
No. 578. ♀ juv., Jamarysinho, 21. ix. 1907.—Wing 82 ; tail 58 ; bill 14 mm.

Two of the females are fully adult birds. Top of the head, nape, anterior and middle portions of the back uniform cinnamon-rufous ; sides of the head, throat, and foreneck rather paler ; the rest of the under parts still lighter, deep ochraceous. The male differs by its generally lighter coloration, especially by its much paler, bright creamy breast and abdomen.

The immature female has the crown mixed with brownish grey, and the mantle considerably duller, cinnamon-brown, corresponding to Des Murs' *S. major*, while the rufous-headed specimens agree with the types of *H. rufum* of Pelzeln.

142. **Scotothorus turdinus amazonum** (Scl.).

[*Muscicapa turdina* Wied, *Beitr. Naturg. Bras.* 3. ii. p. 817 (1831.—Bahia).]
Heteropelma amazonum Sclater, *Proc. Zool. Soc. Lond.* 1860. p. 466 (1861.—Chamicuros, Eastern Peru) ; Pelzeln, *l.c.* p. 125 (Borba).
S. a. amazonum Hellmayr, *Nov. Zool.* xiv. p. 361 (Humaytha).

Nos. 94, 137. ♂ vix ad., ♀ ad., Calama, 22, 30. vi. 1907.—Wing 88, 86 ; tail 66, 63 ; bill 14, 15 mm.
No. 755. ♂ ad., Allianca, 7. xi. 1907.—Wing 90½ ; tail 70 ; bill 14 mm.
No. 973. ♀ vix ad., Maruins, 5. vii. 1908.—Wing 91 ; tail 65 ; bill 15 mm.

No. 1010. ♀ pull., Maruins, 13. vii. 1908.

[No. 1451. ♀ imm., Borba, 7. xii. 1906.—Wing 88 ; tail 65 ; bill 14½ mm.]

In addition to the above, I have before me Natterer's series, consisting of twelve specimens, kindly lent by the authorities of the Vienna Museum ; the four examples obtained by Mr. Hoffmanns at Humaytha ; three skins from the Upper Orinoco (Munduapo, Nericagua); two from the Caura Valley, six from British Guiana (*S. t. olivaceus*); one each from Cayenne and Surinam, and five from Prata, Pará (*S. t. wallacii*). The study of this large material revealed the fact that, notwithstanding a certain amount of individual variation, three distinct races are recognizable. Single specimens are not always distinguishable, yet it cannot be denied that the slight colour differences are connected with geographical distribution.

(*a*) *S. t. amazonum* (Scl.).

Hab. Peru : Chamicuros (Hauxwell, Bartlett), Yurimaguas (Stolzmann), Soriano (Jelski), La Gloria (Kalinowski), Cosnipata (Whitely), etc. W. Brazil : Villa Maria, Engenho do Gama (Rio Guaporé), Mattogrosso (Natterer) ; Rio Madeira : Humaytha (Hoffmanns), Borba (Natterer), Allianca, Calama, Maruins (Hoffmanns) ; Rio Xié and Marabitanas, upper Rio Negro (Natterer). Eastern Ecuador : Sarayaçu (Buckley). Venezuela, Upper Orinoco : Munduapo, Nericagua (Cherrie).

Specimens from Sarayaçu, Orinoco, and Rio Negro have, as a rule, the back brownish olive ; the cap more or less tinged with cinnamomeous ; the throat and foreneck conspicuously washed with rufescent brownish ; and the remainder of the under parts dark greenish olive. The series from the Rio Madeira and its headwaters (Engenho do Gama, Villa Maria) are generally less brownish, more greenish olive on the upper parts, and the belly is slightly paler, more greyish olive ; but there are so many exceptions that I do not venture to separate them, inasmuch as I have no topotypical Peruvian material for comparison. Several examples from Humaytha and Calama show very little rufescent admixture on the pileum, and closely approach *S. t. wallacii.*

Immature birds have the outer aspect of the quills decidedly rufous brown, while in adult ones these edges are olive-brown, or very faintly tinged with russet.

(*b*) *S. t. wallacii* (Scl. & Salv.).

Hab. N.E. Brazil : Pará (Wallace, Snethlage), Prata (Hoffmanns). French Guiana : Saint-Jean-du-Maroni (Le Moult ; Mus. Munich). Surinam : near Paramaribo (Chunkoo ; Tring Museum).

Five topotypes from near Pará differ from the preceding form by purer green back, with very little, if any, rufescent tinge on the crown ; paler, more greyish green belly ; and by having the throat but slightly, if at all, shaded with brownish. Two birds from Cayenne and Surinam are in every respect typical. As stated above, some specimens from the Madeira are hardly different from *wallacii.*

(*c*) *S. t. olivaceus* Ridgw.

Scotothorus olivaceus Ridgway, *Proc. Biol. Soc. Wash.* xix. p. 118 (1906.—Rio Mato, Caura, Venezuela).

Hab. Eastern Venezuela, Caura Valley : Mato R. (Klages), Nicare, La Pricion (André). British Guiana : Bartica Grove, Camacusa, R. Carimang, Roraima (H. Whitely, jr.).

Although Mr. Ridgway compared his type with *S. t. rosenbergi* (Hart.), of Western Ecuador, the two birds have very little in common. *S. t. olivaceus* is exceedingly close to *S. t. wallacii*, which is also geographically the nearest. Yet my eight specimens (two from Caura, six from Brit. Guiana) differ by having the throat and foreneck much more conspicuously tinged with brownish, as well as by their duller, brownish olive back. In the latter respect they approach *S. t. amazonum*, but may be distinguished by the absence of cinnamomeous on the crown. Two of the skins are, however, scarcely different from *wallacii*. The specimens from British Guiana are in every way identical with the two topotypes from the Caura River.

143. **Heterocercus linteatus** (Strickl.).

Elaenia linteata Strickland, *Contrib. Ornith.* for 1850. *Illustr.* p. 121. tab. fig. sin. (part. : ♂—"from the upper branches of the Amazon River").
Heterocercus linteatus Hellmayr, *l.c.* p. 362 (Humaytha) ; Pelzeln, *l.c.* p. 125 (Borba).

Nos. 985, 1021, 1027. ♂♂ ad., Maruins, 9, 16, 17. vii. 1908.—Wing 89—90 ; tail 54 ; bill 12½—13½ mm. "Iris brown, feet and bill black."

Nos. 1007, 1017. ♀♀ ad., Maruins, 12, 14. vii. 1908.—Wing 83, 86 ; tail 52, 54 ; bill 13 mm.

No. 793. ♀ ad., Allianca, 9. xi. 1907.—Wing 83 ; tail 51 ; bill 13 mm.

Until recently this beautiful species was only known from the Rio Madeira. Miss Snethlage, however, has lately obtained specimens at Monte Alegre, on the Lower Amazons,* and found it common on the Tapajóz : Villa Braga, Goyana, Ilha do Papageio, and Ilha do Coata.†

[144. **Tityra cayana** (Linn.).

Lanius Cayanus Linnaeus, *Syst. Nat.* xii. 1. p. 137 (1766.—ex Brisson : "Cayania").
Tityra cayana Pelzeln, *l.c.* p. 119 (Borba).

Right bank : Borba (Natterer).

The single adult male in the Vienna Museum agrees, in size and colour of the bill, with specimens from French Guiana, Venezuela (Caura), etc. The basal portion of both mandibles (for about 16 mm.) is reddish yellow, the remainder black.]

145. **Tityra semifasciata semifasciata** (Spix).

Pachyrhynchus semifasciatus Spix, *Av. Bras.* ii. p. 32. pl. xliv. fig. 2 (1825.—"in provincia Pará").
Tityra semifasciata semifasciata Hellmayr, *Nov. Zool.* xiv. p. 363 (Humaytha).

No. 431. ♂ ad., Calama, 19. viii. 1907.—Wing 119 ; tail 72 ; bill 26 mm.
No. 810. ♂ ad., Allianca, 2. xii. 1907.—Wing 118 ; tail 72 ; bill 24 mm.
"Iris yellowish red, feet dark grey, bill greyish red."
Typical of *T. s. semifasciata*. Cf. my revision of Spix's types, p. 668.

[146. **Tityra leucura** Pelz.

Tityra (*Erator*) *leucura* Pelzeln, *Zur Orn. Bras.* ii. pp. 120, 183 (1868.—Salto do Girao, Rio Madeira).

Right bank : Salto do Girao (Natterer).

Natterer obtained, in October 1829, a single immature male which is still

* *Journ. f. Orn.* 1907. p. 289. † *Journ. f. Orn.* 1908. p. 504.

unique in the Vienna Museum. *T. leucura* is a near ally of *T. albitorques*,* with which it agrees in having the lores beset with black feathers, and the auricular region whitish; but differs at a glance by its pale greyish, at the tip almost white tail, without any trace of black. The bill too is much smaller. Although the type is an immature bird, I think there can be no doubt about its being an excellent form. It has the following dimensions: wing 102; tail 65; bill 16 mm.

Farther south, on the Rio Guaporé (Villa Bella de Mattogrosso, Engenho do Gama), in Western Mattogrosso (Chapada, Corumbá), and in Eastern Bolivia (Chiquitos, Santa Cruz-de-la-Sierra), another closely related species, *T. pelzelni* Salv. & Godm.,† is met with. This form is nearly allied to *T. i. inquisitor*, of South-Eastern Brazil, but differs by the greater extent of white at the base of the tail; besides, the rectrices show distinct white apical margins. From *T. albitorques* and *T. leucura* it may at once be distinguished by its black (instead of white) ear-coverts.]

147. **Hadrostomus minor** (Less.).

Querula minor Lesson, *Traité d'Orn.* livr. 5. p. 363 (end of 1830.—Cayenne).

No. 292. ♂ ad., Calama, 29. vii. 1907.—Wing 89½; tail 67; bill 18 mm.

No. 405. ♀ ad., Calama, 16. viii. 1907.—Wing 92; tail 69; bill 19 mm.

No. 1064. ♂ ad., Las Onças, Manicoré, 18. viii. 1908.—Wing 90; tail 63½; bill 17 mm.

"Iris brown, feet and bill black."

Agreeing with a series from Cayenne, Venezuela (Caura), Bogotá, etc.

The female of *H. minor* may easily be distinguished from that of *H. rufus* (*atricapillus*) by its blackish (not yellowish white) lower mandible. Besides, the back is dull olive, but slightly mixed with brownish, instead of being, as in *H. rufus*, bright cinnamon-rufous like the upper tail-coverts; the cheeks, auricular region, and under parts are much darker, deep ochraceous, instead of buff, etc., etc.

H. minor is new to the fauna of the Rio Madeira; but Natterer got a male on the Rio Guaporé,‡ and D'Orbigny obtained specimens in Guarayos and Yuracarès, Eastern Bolivia. §

148. **Pachyrhamphus marginatus** (Licht.).

Todus marginatus Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 51 (1823.—Bahia; = ♀); cf. Berlepsch, *Nov. Zool.* xv. 1908. p. 141.

Pachyrhamphus atricapillus (nec Merrem) Pelzeln, *l.c.* p. 121 (Borba).

No. 1006. ♂ ad., Maruins, 12. vii. 1908.—Wing 67½; tail 51; bill 13 mm.

No. 1043. ♀ ad., Maruins, 21. vii. 1908.—Wing 65; tail 48; bill 14 mm.

No. 1044. ♂ juv., Maruins, 21. vii. 1908.—Wing 65; tail 50; bill 12½ mm.

"Iris brown, feet and bill black."

The Maruins specimens agree with a series from Venezuela (Caura), Rio

* Specimens from Chyavetas, Peru (Brit. Museum), Barra do Rio Negro (Vienna Mus.), and Bogotá collections (in Tring) examined. The Central American form is different.

† *Tityra pelzelni* Salv. & Godm., *Biolog. Centr. Americ.* ii. p. 120 (1890.—Mattogrosso).

Psaris inquisitor (nec Licht.) Lafr. & D'Orb., *Syn. Av.* i. in *Mag. Zool.* 1837. cl. ii. p. 41 (Chiquitos, Santa Cruz, Bolivia).

Tityra inquisitor Allen, *Bull. Amer. Mus.* v. 1893. p. 110 (Corumbá, Chapada).

T. albitorques (nec Dubus) Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 120 (part.: Engenho do Gama, Matogrosso).—All these specimens were examined by me.

‡ Pelzeln, *l.c.* p. 120.

§ D'Orbigny, *Voyage. Oiseaux* p. 302 (part.).

Negro, and Guiana in size and coloration. Two males and three females from Eastern Brazil (Rio de Janeiro and Bahia) have longer wings and tail.

In the case of additional material corroborating this difference, the northern birds would have to be provided with a new name, since *T. marginatus* and all other synonyms are strictly applicable to the South-East Brazilian race.

149. **Pachyrhamphus niger niger** (Spix).

Pachyrhynchus niger Spix, *Av. Bras.* ii. p. 33. pl. xlv. fig. 1 (1825.—no locality: Fonteboa, Rio Solimoëns fixed as terra typica).
P. polychropterus Pelzeln, *l.c.* p. 121 (part.: Borba, Barra do Rio Negro; Serra Carauman, Rio Branco).
P. niger niger Hellmayr, *Nov. Zool.* xiv. p. 363 (Humaytha, Borba).

No. 449. ♂ ad., Calama, 24. viii. 1907.—Wing 77; tail 58; bill 15 mm.
No. 36. ♀ ad., Calama, 13. vi. 1907.—Wing 70; tail 53; bill 14 mm.
"Iris brown, feet and bill black, in the female lower mandible greyish."

The adult male is nearly uniform black both above and below. The two specimens obtained by Natterer near Borba and at the Serra Carauman are duller, sooty blackish underneath, and the former has the feathers of the rump as well as the upper tail-coverts edged with slaty grey. Pelzeln (*l.c.*) mentions also examples from Salto Girao, but in the series forwarded for my inspection by Dr. Lorenz this locality is not represented.

150. **Lathria cinerea** (Vieill.).

Ampelis cinerea Vieillot, *Nouv. Dict.* viii. p. 162 (1817.—Cayenne).
Lathria cinerea Hellmayr, *l.c.* p. 363 (Humaytha).
Lipaugus plumbeus Pelzeln, *l.c.* p. 122 (Borba).

Nos. 339, 481. ♂ ♀ ad., Calama, 3, 29. viii. 1907.—Wing 120; tail 115, 109 mm.
No. 802. ♀, Allianca, 26. xi. 1907.—Wing 120; tail 115 mm.
"Iris grey or greyish brown, feet dark grey, bill black."

151. **Lipangus simplex** (Licht.).

Muscicapa simplex Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 53 (1823.—Bahia).
Lipaugus simplex Pelzeln, *l.c.* p. 123 (Salto Girao, Borba).
Lipangus simplex Hellmayr, *Nov. Zool.* xiv. p. 364 (Borba).

Nos. 349, 553. ♀ ad., ♀ imm., Calama, 7. viii. 1907; Jamarysinho, 14. ix. 1907.—Wing 99, 95; tail 97, 92; bill 20 mm.
Nos. 1019, 1051. ♂ ad., ♀ vix ad., Maruins, 15, 22. vii. 1908.—Wing 100, 97; tail 95, 94; bill 19, 18 mm.
"Iris brown, feet and bill black."

152. **Laniocera hypopyrra** (Vieill.).

Ampelis hypopyrra Vieillot, *Nouv. Dict.* viii. p. 164 (1817.—"Guyane," sc. Cayenne).
Laniocera hypopyrra Hellmayr, *l.c.* p. 364 (Borba).

No. 305. ♀ ad., Calama, 30. vii. 1907. "Iris grey, feet blackish plumbeous, bill black."—Wing 108; tail 94 mm.

The spots on the sides of the chest are yellow, mixed with pale orange, exactly as in a specimen from Caura, Venezuela; while in others from the same locality they are either sulphur-yellow or orange.

[153. **Attila brasiliensis brasiliensis** Less.

Attila brasiliensis Lesson, *Traité d'Orn.* livr. 5. p. 360 (end of 1830.—"Brésil," errore! the type is from Cayenne; cf. Pucheran, *Arch. Mus. Paris* vii. 1855. p. 366); Hellmayr, *Nov. Zool.* xiii. 1906. pp. 328-30 (crit.).

Dasycephala uropygialis Cabanis in Schomburgk, *Reisen in Brit. Guiana* iii. p. 686 (1848.—British Guiana).

Attila uropygialis Pelzeln, *Zur Orn. Bras.* ii. p. 96 (Salto do Girao).

Left bank: Salto do Girao (Natterer).

The specimen obtained by Natterer is perfectly similar to russet-backed examples from Brit. Guiana and the Caura Valley. Lately I have been enabled to examine Cabanis' type of *D. uropygialis* (cf. *l.c.* p. 328), and found it to be a young bird of the present species, with the back dull russet-brown, large rufescent margins to the wing-coverts, etc.]

[154. **Attila spadiceus rufigularis** Pelz.

Muscicapa spadicea Gmelin, *Syst. Nat.* 1. ii. p. 937 (1788.—based on "Yellow-rumped Flycatcher," Latham, *Gen. Syn. Birds* 2. i. p. 354: Cayenne).]

Attila rufigularis Pelzeln, *Zur Orn. Bras.* ii. pp. 96, 170 (1868.—Salto do Girao).

Left bank: Salto do Girao (Natterer).

The type, an immature bird, is still the only known specimen. It is most closely related to *A. s. spadiceus*, but the throat and sides of the head are of a much clearer and brighter ferruginous (without any brownish admixture), the axillaries and under wing-coverts lighter ochraceous, and the middle of the abdomen is more extensively white. A good series from the Rio Madeira is required to establish the claims of this form to recognition.

Moreover, I must confess that I have strong doubts about *A. brasiliensis* and *A. spadiceus* being specifically distinct, and should not be surprised if they should turn out to be merely phases of the same form!]

[155. **Attila thamnophiloides** (Spix).

Muscicapa thamnophiloides Spix, *Av. Bras.* ii. p. 19. pl. xxvi. fig. 2 (1825.—"in locis sylvaticis fl. Amazonum").

Attila thamnophiloides Pelzeln, *l.c.* p. 93 (Borba); Hellmayr, *Nov. Zool.* xiv. 1907. p. 364 (Borba).

Right bank: Borba (Natterer, Hoffmanns).]

[156. **Attila bolivianus nattereri** Hellm.

Attila nattereri Hellmayr, *Verhandl. Zool. Bot. Gesellsch. Wien* lii. p. 95 (1902.—Borba, Rio Madeira).

A. bolivianus (nec Lafresnaye) Pelzeln, *l.c.* p. 96 (Borba, Pará).

Right bank: Borba (Natterer). Not obtained by Mr. Hoffmanns.

A. b. nattereri differs from *A. b. bolivianus* by its considerably darker coloration and smaller size. The distinguishing characters are fully given *l.c.*: cf. also my remarks in *Nov. Zool.* xiii. 1906. p. 330. Miss Snethlage has lately sent, for my inspection, two males taken at Monte Alegre, Lower Amazons, which agree perfectly with the types in the Vienna Museum. The range of the two races is as follows:—

(*a*) *A. bolivianus bolivianus* Lafr.

Attila bolivianus Lafresnaye, *Rev. Zool.* xi. p. 46 (1848.—based on *Tyrannus rufescens* Lafr. & D'Orb., *Syn. Av.* in *Mag. Zool.* 1837. cl. ii. p. 44 : "Bolivie : Moxos, Chiquitos").
A. validus Pelzeln, *Zur Orn. Bras.* ii. pp. 96, 169 (1868.—Villa Maria ; Engenho do Gama and Villa Bella de Matogrosso, Rio Guaporé).

Hab. Eastern Bolivia : Moxos, Chiquitos (D'Orbigny). Western Mattogrosso : Chapada (Smith) ; Villa Maria, Rio Paraguay ; Engenho do Gama and Villa Bella, on the Rio Guaporé (Natterer). W. Brazil : Cachoeira, on the Rio Purús.*

Thirteen adults (Mattogrosso, East Bolivia, Purús) measure : wing 94—100 ; tail 83—89 mm.

Obs. The types of *A. bolivianus* and *A. validus* are practically identical, and an adult male from the Upper Purús (Cachoeira) does not differ either.

(*b*) *A. bolivianus nattereri* Hellm.

Hab. Northern Brazil : Borba, Rio Madeira (Natterer) ; Monte Alegre, Amazons (Snethlage) ; Pará (Natterer).

Five adults (Borba, Pará, Monte Alegre) measure : wing 91—92½ ; tail 76—80 mm.]

157. **Phoenicircus nigricollis** Sw.

Phoenicircus nigricollis Swainson in Richardson, *Fauna Boreali-Americ. II. Birds* p. 491 (1831.—based on *Ampelis carnifex* Spix, *Av. Bras.* ii. p. 4. pl. v. : "in sylvis fl. Nigri ad urbem Barcellonam").
Phoenicocercus nigricollis Pelzeln, *l.c.* p. 131 (Borba).

No. 156. ♀ ad., Calama, 3. vii. 1907. "Iris brown, feet greyish green, bill blackish brown."—Wing 110 ; tail 83 ; bill 15½ mm.

158. **Cotinga cayana** (Linn.).

Ampelis cayana Linnaeus, *Syst. Nat.* xii. 1. p. 298 (1766.—ex Brisson : "Brasilia, Cayana").
Cotinga cayana Pelzeln, *l.c.* p. 133 (Borba).

No. 308. ♂ ad., Calama, 31. vii. 1907. "Iris brown, feet and bill black."—Wing 115 ; tail 80 mm.

Agreeing with examplés from Surinam, Cayenne, etc.

[159. **Xipholena punicea** (Pall.).

Turdus puniceus Pallas in Vroeg's *Catalogue, Adumbrat.* p. 2 (1764.—"Zuyd America").
Xipholena pompadora Pelzeln, *l.c.* p. 133 (Borba).

Borba (Natterer). This species is by no means confined to the Guianas (cf. *Cat. Birds* xiv. p. 387), but also widely distributed in Amazonia. Natterer obtained specimens at various places on the Rio Negro, and Mr. E. Garbe sent an adult male from the Rio Juruá to the Museu Paulista. Amazonian birds have somewhat longer wings and tails, but do not otherwise differ.]

[160. **Cephalopterus ornatus** Geoffr.

Cephalopterus ornatus Geoffroy, *Ann. Mus. d'Hist. Nat. Paris* xiii. p. 238. pl. 17 (1809.—loc. inc.) ; Pelzeln, *l.c.* p. 135 (Engenho do Gama, Ponte do Guaporé, Forte do Principe).

Both banks : Forte do Principe, Guaporé (Natterer).]

* *A. bolivianus* Snethlage, *Journ. f. Orn.* 1908. p. 13.

161. **Gymnoderus foetidus** (Linn.).

Gracula foetida Linnaeus, *Syst. Nat.* x. p. 108 (1758.—"America, Rolander"; *Surinam* fixed as type locality, cf. *Nov. Zool.* ix. p. 58).
Gymnoderus foetidus Pelzeln, *l.c.* p. 135 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 364 (Humaytha).

No. 325. ♂ ad., Calama, 2. viii. 1907.—Wing 195; tail 138 mm.

Nos. 326, 703. ♀ ♀, Calama, 2. viii. 1907; S. Isabel, 16. x. 1907.—Wing 195; tail 128 mm.

"Iris brown or grey, feet blackish or grey, bill bluish grey, bare skin on neck blue."

162. **Furnarius minor** Pelz.

Furnarius (*Opetiorhynchus*) *minor* Pelzeln, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) xxxi. p. 321 (1858.—"Brasilia," sc. Rio Madeira, below the mouth of the Rio Mahisy; cf. idem, *Zur Orn. Bras.* i. p. 35).

No. 105. ♀ ad., Calama, 25. vi. 1907.—Wing 73; tail 48; bill 17 mm.—"Iris yellowish brown, feet and bill grey."

Agrees in coloration and size with specimens from the left bank of the Tapajóz (Itaitúba, Urucuritúba), previously obtained by Mr. Hoffmanns. The species occurs also in Eastern Peru (Nauta, Iquitos, Santa Cruz).

[163. **Synallaxis hypospodia** Scl.

Synallaxis hypospodia Sclater, *Proc. Zool. Soc. Lond.* 1874. p. 10 (1874.—Bahia, Eastern Brazil).
Synallaxis sp., Hellmayr, *Nov. Zool.* xiv. p. 364 (Humaytha).

Left bank: Humaytha (Hoffmanns), a single adult female obtained.

On comparing this bird with additional examples from Bahia, I find that, except the nearly uniform black throat-patch, none of the other differences mentioned by me hold good, and Count Berlepsch, to whom it was submitted for inspection, also believes it to be *S. hypospodia*. It will be remembered that this species has lately been procured by M. Jean Kalinowski in the Santa Ana Valley, C.E. Peru.*]

[164. **Synallaxis propinqua** Pelz.

Synallaxis propinqua Pelzeln, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) xxxiv. p. 101 (1859.—"Brasilia," sc. Rio Madeira, below the mouth of the Rio Mahisy; cf. Pelzeln, *Orn. Bras.* i. p. 37).

Rio Madeira: below the mouth of the Rio Mahisy (Natterer). Not obtained by Mr. Hoffmanns.

This very distinct species agrees with the South Brazilian *S. cinerascens* Temm. in the coloration of the throat, but has a much longer bill, much paler, greyish brown under parts passing into whitish along the middle of the belly, and the ferruginous colour of the wings and tail is considerably clearer. It is also found on the Rio Juruá,† in Eastern Peru, but does not appear to occur east of the Madeira Valley.]

165. **Synallaxis gujanensis inornata** Pelz.

[*Motacilla gujanensis* Gmelin, *Syst. Nat.* 1. ii. p. 988 (1789.—based on "Le Rougequeue, de Cayenne," D'Aubenton, Pl. enl. 686. fig. 2).]
Synallaxis inornata Pelzeln, *Sitzungsber. Akad. Wiss. Wien* (*math.-naturwiss Cl.*) xx. 1. p. 160 (1856.—Salto do Girao, Rio Madeira); Pelzeln, *Zur Orn. Bras.* i. 1857. p. 36 (Salto do Girao, Borba).
S gujanensis inornata Hellmayr, *Nov. Zool.* xiv. 1907. p. 364 (Humaytha).
S. guianensis (errore!) Snethlage, *Journ. f. Orn.* 1908. p. 13 (Monte Verde, Bom Lugar: Rio Purús).

* Berlepsch & Stolzmann, *Ornis* xiii. 2. 1906. p. 92. † Ihering, *Revist. Mus. Paul.* vi. p. 435.

No. 462. ♂ ad., Calama, 26. viii. 1907.—Wing 62 ; tail 65 ; bill 15 mm.

No. 420. ♀ vix ad., Calama, Island of Sta. Barba, 18. viii. 1907.—Wing 60½ ; tail 64 ; bill 14½ mm.

No. 780. ♂ imm., Allianca, 12. xi. 1907.—Wing 61½ ; tail 66 ; bill 14 mm.

"Iris brown, feet grey, bill black, lower mandible pale."

Besides the above, I have examined the typical examples in the Vienna Museum (a couple from Borba, one from Salto do Girao), an adult female from Humaytha, and two males from the Rio Purús (Monte Verde, Bom Lugar : Pará Museum). The series differs from a very large number of skins of true *S. g. gujanensis* * by having the under parts nearly uniform rusty buff, with very little, if any, whitish admixture along the middle line of the abdomen. In the typical race, the foreneck, chest, and sides are buffy brown or pale earthy brown, while the middle of the breast and abdomen is extensively creamy white. Although single specimens are not always easily to be told, yet the difference is sufficiently marked to justify the recognition of *S. g. inornata*. By the bright coloration of the lower parts it slightly approaches *S. albilora* Pelz.,† but the latter is distinguished at a glance by the upper tail-coverts and tertials being cinnamon-rufous like the tail (instead of earthy brown like the back). The back, too, is fulvous brown mixed with cinnamon (instead of dull earthy brown), and the under surface is decidedly deeper ochraceous.

S. g. inornata, as here defined, inhabits the tract of country between the Madeira Valley (Borba, Calama, Humaytha, Salto do Girao) and the Upper Purús. I suspect, however, that the bird from the Rio Juruá identified as *S. albilora* by Prof. Ihering ‡ will also prove to belong to it.

[166. **Synallaxis mustelina** Scl.

Synallaxis mustelina (Natterer MS.) Sclater, *Proc. Zool. Soc. Lond.* 1874. p. 14 (1874.—Rio Madeira). *S. cinnamomea* (errore !) Pelzeln, *Zur Orn. Bras.* i. p. 37 (Rio Madeira, below the mouth of the Rio Marmellos).

Rio Madeira : below the mouth of the Rio Marmellos (Natterer).

In addition to the types (in the Vienna Museum) I have examined four adults obtained by Comte de Castelnau at Sarayacu and near Pebas, Eastern Peru, in the Paris Museum ; a couple from the Upper Ucayali (Bartlett), and one adult female from Teffé (Hoffmanns), in the Tring Museum. All have a conspicuous blackish loral stripe. *S. frenata* Snethl. § is therefore a synonym of *S. mustelina*.]

167. **Synallaxis rutilans amazonica** Hellm.

Synallaxis rutilans amazonica Hellmayr, *Nov. Zool.* xiv. p. 14 (1907.—Itaitúba, Tapajóz River) ; idem, *l.c.* p. 52 (Teffé) ; Snethlage *Journ. f. Orn.* 1908. p. 506 (Bella Vista, right bank of the Tapajóz).

Nos. 6, 33. ♂ ad., ♂ imm., Calama, 8, 13. vi. 1907.—Wing 62, 61 ; tail 70, 65 ; bill 12, 13 mm.

* 9 from Cayenne, 1 ♂ ad. Bartica Grove, Brit. Guiana, ♂ ♀ Kwata, Surinam, ♂ ♀ Itaitúba, Tapajóz, 1 ♂ ♀ Teffé, Amazons, 1 ♂, 2 ♀ ♀ Caura, 2 ad. from Bogotá, ♂ ♀ Pará, etc.

† *Sitzungsber. Akad. Wiss. Wien (math.-naturwiss. Cl.)* xx. 1. p. 160 (1856.—W. Mattogrosso : Cuyabá Villa Maria, Engenho do Gama ; cf. Pelzeln, *Orn. Bras.* i. 1867. p. 37).

‡ *Revist. Mus. Paul.* vi. p. 435.

§ *Journ. f. Orn.* 1906. p. 523 (Santarem).

No. 275. ♀ ad., Calama, 26. vii. 1907.—Wing 62; tail (incomplete); bill 12 mm.

"Iris brown, feet dark grey, bill black."

The adult male (No. 6), like the type and several examples from Teffé, has the pileum and mantle deep cinnamon-rufous, with scarcely any brownish suffusion. The two other specimens and an adult female from Bella Vista (right bank of the Tapajóz) are somewhat intermediate between *S. r. amazonica* and *S. r. rutilans*. They have the vertex and mantle brown like the latter, but the lateral interscapular feathers are entirely or partly ferruginous, and there is a decided rufous admixture across the nape.

The range of *S. r. amazonica* is, accordingly, as follows: **North-Eastern Peru:** Xeberos, Chamicuros, Chyavetas (Bartlett), Yurimaguas (Stolzmann). **North Brazil:** Teffé, Rio Solimoëns (Hoffmanns); Calama, Rio Madeira (Hoffmanns); Itaitúba, left bank (Hoffmanns), Bella Vista, right bank of the Rio Tapajóz (Snethlage); Santarem (Riker).

S. r. rutilans Temm. inhabits the Rio Negro and Orinoco district (cf. *Nov. Zool.* xiv. p. 13), but occurs also in Lower Amazonia on the banks of the Tocantins. I have examined a specimen from Cametá in the Berlin Museum,* and an adult female obtained by Miss Snethlage at Arumatheua,† and found them perfectly agreeing with my large series from Venezuela, etc.

Still farther to the east, near Pará and on the Capim and Guamá rivers, another distinct form, *S. r. omissa* Hart., is met with, while a fourth race, *S. r. tertia* Hellm., dwells in Western Mattogrosso (Rio Guaporé) and in the north-western parts of São Paulo (Irisanga).

Cf. my review in *Nov. Zool.* xiv. pp. 13–15.

168. **Siptornis vulpina vulpina** (Pelz.).

Synallaxis vulpina Pelzeln, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) xx. 1. p. 162 (1856.—"Brasilia," sc. Rio Claro and Guardamor: Goyaz; Villa Maria, Engenho do Gama, Villa Bella: Mattogrosso; Rio Madeira); Pelzeln, *Orn. Bras.* i. 1867. p. 37 (ut suprá).

No. 223. ♀ ad., Calama, 14. vii. 1907.—Wing 63; tail 61; bill 13½ mm.

No. 485. ♂ juv., Calama, 29. viii. 1907.—Wing 65; tail 63; bill 13½ mm.

No. 220. ♀ juv., Calama, 14. vii. 1907.—Wing 63; tail 61; bill 12½ mm.

The adult female agrees exactly with Pelzeln's type-specimens kindly lent by Dr. von Lorenz, and others from Goyaz, Rio Grande (Northern S. Paulo), etc., in the Tring and Berlepsch Museums. The principal character of *S. v. vulpina* consists of the pileum and upper back being uniform fox-red, in decided contrast to the pale olive-brown rump. Two females taken by Miss Snethlage on the island of Goyana, Tapajóz,‡ are in every respect similar to typical examples, while a single ♂ ad. from Arumatheua (Tocantins §) is much paler, buffy brown, on the rump.

In coloration the sexes are alike, but the females are decidedly smaller. The Rio Madeira appears to form the western limit of the range of *vulpina*, since farther to the west, on the Rio Purús, another form, *S. vulpina alopecias* (Pelz.‖) is met with.

* *S. rubricata* Lichtenstein, *Nomencl. Av. Berol.* p. 63 (1854.—nom. nud.; cf. Cabanis & Heine, *Mus. Hein.* ii. 1859. p. 29. note ***).

† *S. rutilans* Snethlage, *Journ. f. Orn.* 1908, p. 530.

‡ *Journ. f. Orn.* 1908. p. 506.

§ *L.c.* p. 529.

‖ *Synallaxis alopecias* Pelzeln, *Sitzungsber. Akad. Wiss. Wien* (*math.-naturwiss. Cl.*) xxxiv. p. 101 (1859.—Forte do Rio Branco; cf. Pelzeln, *Orn. Bras.* p. 37).

The adult males of the latter closely resemble *S. v. vulpina*, but, as a rule, there is more or less of brownish admixture in the fox-red of the nape, while the females differ at a glace in having the nape and back olive-brown like the rump, the pileum alone being rufous. In addition to the two type-specimens from Forte do Rio Branco (Natterer coll., Vienna Museum) I have before me sixteen skins from the middle and upper Orinoco (Altagracia, Maipures, Caicara, Ciudad Bolivar; Cherrie & Klages coll.), four from the Purús River,* and one from the Upper Sararé (Geay coll., Paris Museum). In contradiction to a former statement of mine,† I find that examples from North Peru (Nauta, Pebas) likewise belong to *alopecias* and **not** to *vulpina*. *S. vulpecula* ‡ is, therefore, most probably synonymous with *alopecias*, yet a series from the Ucayali should be examined.

169. **Siptornis gutturata** (Lafr. & D'Orb.).

Anabates gutturatus Lafresnaye & D'Orbigny, *Syn. Av. II.* in *Mag. Zool.* cl. ii. p. 14 (1838.—Yuracares, N.E. Bolivia); cf. Ménégaux et Hellmayr, *Mém. Soc. d'Hist. Nat. Autun* xix. 1906. p. 76.

Siptornis gutturata Hellmayr, *Nov. Zool.* xiv. 1907. p. 364 (Humaytha).

No. 86. ♂ ad., Calama, 21. vi. 1907. "Iris dirty yellowish white, feet green, bill black, below grey."—Wing 70; tail 64; bill 16 mm.

There is no difference between the specimens from the Rio Madeira and others obtained on the Rio Negro (*S. hypositicta* Pelz.) and in Venezuela (Orinoco, Caura).

[170. **Ancistrops strigilatus** (Spix).

Thamnophilus strigilatus Spix, *Av. Bras.* ii. p. 26. pl. xxxvi. fig. 1 (1825.—Brazil); Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 78 (Borba).

Rio Madeira: Borba (Natterer). Mr. Hoffmanns obtained a couple at Teffé, Rio Solimoëns,§ and Prof. Ihering received another from the Rio Jurná. ‖]

171. **Automolus subulatus subulatus** (Spix).

Sphenura subulata Spix, *Av. Bras.* i. p. 82. pl. lxxxiii. fig. 1. (1824.—"in sylvis flum. Amazonum").

No. 196. ♂ ad., Calama, 9. vii. 1907. "Iris dark brown, feet grey, bill black, below grey."—Wing 82; tail 69; bill 21½ mm.

This is the first record from the Rio Madeira. The bird agrees with Spix's type in the Munich Museum, except in being much brighter underneath because the latter is extremely faded through exposure to light. The lower parts are clear buffy, the inner sides of the breast and the flanks slightly tinged with olive; the feathers of the foreneck show obsolete edges of dark olive.

A. s. assimilis Berl. & Tacz.,¶ of Western Ecuador, is easily distinguished by its darker, more reddish brown back; much darker, chestnut-rufous colour of the rump, upper tail-coverts, and rectrices; by lacking the narrow buff shaft-lines on the

* Snethlage, *Journ. f. Orn.* 1908. p. 13.

† *Mém. Soc. d'Hist. Nat. Autun* xix. 1906. p. 75.

‡ Sclater & Salvin, *P. Z. S.* 1866. p. 184 (Ucayali, East Peru).

§ *Nov. Zool.* xiv. 1907. p. 54.

‖ *Revist. Mus. Paul.* vi. p. 436.

¶ *Automolus assimilis* Berlepsch & Taczanowski, *Proc. Zool. Soc. Lond.* 1883. p. 561 (Chimbo, Western Ecuador).

pileum and nape; and by having the breast and abdomen strongly washed with olivaceous.

Both differ from the typical species of *Automolus* by their straighter, slenderer bill.

172. **Automolus ochrolaemus turdinus** (Pelz.).

[*Anabates ochrolaemus* Tschudi, *Arch. Naturg.* 10. i. p. 295 (1844.—Peru).]
Anabates turdinus Pelzeln, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) xxxiv. p. 110 (1859.—"Brasilia," sc. Barra do Rio Negro; Borba, Rio Madeira; cf. Pelzeln, *Zur Orn. Bras.* i. p. 41).
Automolus ochrolaemus turdinus Hellmayr, *Nov. Zool.* xiv. 1907. p. 365 (Humaytha).

No. 187. ♂ ad., Calama, 7. vii. 1907. "Iris brown, feet light green, bill black, below greyish green."—Wing 94; tail 80; bill 21⅓ mm.

This specimen may be considered as topotypical. Cf. my remarks *l.c.*

173. **Automolus infuscatus paraensis** Hart.

[*Anabates infuscatus* Sclater, *Ann. Mag. Nat. Hist.* (2) xvii. p. 468 (1856.—"in Peruviâ orientali").*]
Automolus sclateri paraensis Hartert, *Nov. Zool.* ix. p. 61, note (1902.—"Bemavides" [= Benevides] near Pará).
Anabates sclateri (nec Pelzeln) Pelzeln, *Zur Orn. Bras.* i. 1867. p. 41 (part.: Pará and Borba).

No. 200. ♂ ad., Calama, 10. vii. 1907. "Iris brownish grey, feet grey, bill dark grey."—Wing 93; tail 78; bill 21 mm.

In addition I have before me Natterer's specimens from Borba and Pará, an adult female from the Tapajóz, and a male obtained by Miss Snethlage at S. Antonio do Prata, near Pará. The series differs very markedly from *A. i. infuscatus* and *A. i. cervicalis* by having the pileum dark greyish olive (instead of bright olive-brown or russet). The range of *A. i. paraensis* comprises that tract of country south of the main valley of the Amazons lying between the Rio Madeira (Borba, Calama) and Pará. In *Nov. Zool.* xii. p. 279, I also referred to specimens from Manáos (Barra do Rio Negro), but this was a mistake, there being none from this locality in the Vienna Museum.

Cf. my review in *Nov. Zool.* xiv. 1907. p. 53.

174. **Philydor pyrrhodes** (Cab.).

Anabates pyrrhodes Cabanis in Schomburgk, *Reisen Brit. Guiana* iii. p. 689 (1848.—Coast of British Guiana); Pelzeln, *Zur Orn. Bras.* i. 1867. p. 40 (Salto do Girao).
Philydor pyrrhodes Hellmayr, *Nov. Zool.* xiv. p. 365 (Humaytha).

No. 54. ♂ ad., Calama, 17. vi. 1907.—Wing 93; tail 74; bill 19 mm.

Nos. 92, 201. ♀ ad., ♀ vix ad. (erroneously sexed "♂"), Calama, 22. vi., 10. vii. 1907.—Wing 85, 82; tail 63, 61; bill 18, 17½ mm.

"Iris brown, feet yellowish grey or light yellow, bill grey (92), blackish (54, 201)."

Identical with Cayenne and Venezuelan (Caura) specimens. This species is widely distributed all over the Amazonian forest region from the Guianas to Eastern Peru and Ecuador. Salto do Girao, on the Rio Madeira, is the most southerly locality yet recorded. Mr. Hoffmanns obtained it also at Itaitúba, left bank of the Tapajóz.†

* = *Anabates Sclateri* Pelzeln, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) xxxiv. p. 111 (1859.—nom. emend. pro *A. infuscatus* Scl.; cf. Berlepsch & Hellmayr, *Journ. f. Orn.* 1905. p. 30).

† Hellmayr, *Nov. Zool.* xiv. p. 16.

175. **Philydor erythrocercus** (Pelz.).

Anabates erythrocercus **Pelzeln**, *Sitzungsber. Akad. Wissensch. Wien* (*math.-naturwiss. Cl.*) **xxxiv.** p. 105 (1859.—"**Brasilia,**" **sc.** *Barra do Rio Negro* ; **cf.** Pelzeln, *Zur Orn. Bras.* **i. p. 39).**

No. 252. ♂ ad., Calama, 22. vii. 1907.—Wing 87 ; tail 67 ; bill 16 mm.

Nos. 18, 50, 101, 306, 470, 504. ♀ ♀ ad. and imm., Calama, 10, 16, 24. vi., 30. vii., 27. viii., 1. ix. 1907.—Wing 79—81 ; tail 62—68 ; bill 15—17 mm.

"Iris brown or greyish brown, feet brown or grey, bill grey, upper mandible darker."

Agreeing with a typical specimen from Barra do Rio Negro (Manáos). Examples from Pará are not different either. This species, though for the first time recorded from the Rio Madeira, has a wide range in Amazonia, being found from Cayenne, British Guiana, and Pará westward to the Purús and Juruá Rivers. Messrs. Sclater & Salvin,* furthermore, mention it in their report on Bartlett's Peruvian collections, but I have not yet examined specimens from this country.

176. **Xenops genibarbis genibarbis** Ill.

Xenops genibarbis **Illiger**, *Prodr. Syst. Mamm. et Av.* p. 213 (1811.—Cametá, Lower Amazons) ; **cf. Hellmayr,** *Nov. Zool.* **xiv. p. 54.**

X. g. genibarbis **Hellmayr,** *Nov. Zool.* **xiv. p. 365 (Humaytha, Borba).**

X. approximans **Pelzeln,** *Zur Orn. Bras.* i. 1867. p. 41 (Salto Girao, São João do Crato, Borba, **Rio Madeira, etc.).**

Nos. 109, 298. ♂♂ ad., Calama, 25. vi., 30. vii. 1907.—Wing 66, 69 ; tail 50, 54 ; bill 14½, 15 mm.

No. 469. ♀ imm., Calama, 27. viii. 1907.—Wing 63 ; tail 48 ; bill 13½ mm.

No. 1042. ♂ ad., Maruins, 21. vii. 1908.—Wing 66 ; tail 51 ; bill 14½ mm.

"Iris brown, feet dark grey, bill dark grey or blackish."

Cf. my revision of the *X. genibarbis* group in *Nov. Zool.* xiv. pp. 54–5.

[177. **Xenops rutilus tenuirostris** Pelz.

[*Xenops rutilus* **Lichtenstein,** *Verz. Dubl. Berliner Mus.* **p. 17 (1823.—Bahia).]**

Xenops tenuirostris **Pelzeln,** *Sitzungsber. Akad. Wiss. Wien* (*math.-naturwiss. Cl.*) **xxxiv.** p. 112 **(1859.—Salto do Girao) ; idem,** *Zur Orn. Bras.* **i. p. 41 (ut suprá).**

Left bank of the Rio Madeira : Salto do Girao (Natterer).

The type in the Vienna Museum is still unique. It is an immature male and measures : wing 63½ ; tail 45 mm.

X. r. tenuirostris is nearest to *X. r. heterurus* Cab. & Heine,† but the third and fourth rectrices (from outside) are wholly black, the fifth has the inner web black, and there is also a black stripe along the inner web of the penultimate tail-feather. Besides, the bill is much weaker and slenderer. This, however, may be due to immaturity, and should be confirmed by a series from the Rio Madeira. Yet I believe there can be no question of *X. r. tenuirostris* being a valid form.

Cf. the review of the geographical races of *X. rutilus* in *Nov. Zool.* xv. 1908. pp. 62–3.]

* *Proc. Zool. Soc. Lond.* 1873. p. 269.

† *X. heterurus* Cabanis & Heine, *Mus. Hein.* ii. p. 33 (1859.—Colombia).

178. **Sclerurus caudacutus umbretta** (Licht.).

[*Thamnophilus caudacutus* Vieillot, *Nouv. Dict.* iii. p. 310 (1816.—"se trouve à la Guyane").]
Myiothera umbretta Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 43 (1823.—Bahia).
Sclerurus caudacutus umbretta Hellmayr, *Nov. Zool.* xiv. 1907. p. 56 (crit.).
S. caudacutus (errore !) Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 86 (part.: Borba); Snethlage, *Journ. f. Orn.* 1908. p. 507 (Villa Braga, Tapajóz).

No. 78. ♂ imm., Calama, 26. x. 1907.—Wing 93; tail 70; bill 21½ mm.

Nos. 195, 284, 728. ♀ ♀ ad., Calama, 9, 28. vii., 25. x. 1907.—Wing 88—91; tail 64—68; bill 21—22 mm.

No. 992. ♀ ad., Maruins, 10. vii. 1908.—Wing 88; tail 62; bill 20½ mm.

"Iris brown, feet blackish brown or black, bill black, below grey."

Some of these specimens have the foreneck and sides of the head conspicuously tinged with tawny, while this is less apparent in others. As a whole, the series agrees very well with a number of skins from the Tapajóz (Villa Braga; coll. Snethlage) and Pará; but I must confess that, in view of the variability of the Lower Amazonian birds, I have strong doubts as regards the distinctness of *S. c. brunneus*. Cf. my review of *Sclerurus caudacutus* and its allies *l.c.* The range of *S. c. umbretta* is as follows:—

Eastern Brazil: Rio Espiritu Santo (Garbe coll. in Mus. Paulist.—vidi), Bahia (coll. Berlin, American and British Mus.); Prata, near Pará (Robert). Central Brazil: Villa Braga, on the Rio Tapajóz (Snethlage); Borba (Hoffmanns), Calama (Hoffmanns), Rio Madeira; Maruins, Rio Machados (Hoffmanns).

[179. **Sclerurus rufigularis** Pelz.

Sclerurus rufigularis Pelzeln, *Zur Orn. Bras.* ii. pp. 87, 161 (1868.—Borba, Rio Madeira; Marabitanas, on the upper Rio Negro).

Right bank: Borba (Natterer).

This species is allied to *S. mexicanus* Scl., but has a much shorter and weaker bill, the throat of a decidedly brighter and clearer rufous, etc. It also occurs in the Pará district and in the Guianas.

Cf. Hellmayr, *Nov. Zool.* xiii. 1906. pp. 364–5.]

[180. **Sittasomus sylviellus amazonus** Lafr.

[*Dendrocolaptes sylviellus* Temminck, *Rec. Pl. col.* livr. 12. pl. 72. fig. 1 (1821.—"Brésil").]
Sittasomus amazonus Lafresnaye, *Rev. Mag. Zool.* (2) ii. p. 590 (1850.—"ad summum Amazonum"); Pelzeln, *Zur Orn. Bras.* i. p. 42 (Borba and Salto Theotonio: Rio Madeira).

Rio Madeira: Borba, Salto do Theotonio (Natterer).

The Borba specimens agree with a series from Teffé, Venezuela (Caura), and British Guiana: head, nape, and lower surface being mouse-grey, without any olive tinge; the upper back rufescent brown, rather darker than in *S. s. chapadensis*. An adult female from Salto Theotonio, farther up the river, is paler throughout, and forms the transition to *chapadensis*. The latter form inhabits Western Mattogrosso (Chapada, Pari near Cuyabá, Urucúm, Engenho do Gama, on the Rio Guaporé, not far from Villa Bella de Mattogrosso), the adjoining parts of Bolivia (Chiquitos), the northern states of Argentine, and Northern Paraguay. In Goyaz it intergrades with *S. s. sylviellus* (cf. Hellmayr, *Nov. Zool.* xv. 1908. p. 63).]

181. **Glyphorhynchus cuneatus castelnaudii** Des Murs.

[*Dendrocolaptes cuneatus* Lichtenstein, *Abhandl. Akad. Berlin a. d. Jahren* 1818–19. p. 204. pl. ii. fig. 2 (1820.—"in Brasiliae provincia Bahia"; cf. idem, *l.c. a. d. Jahren* 1820–21. p. 264).]
Glyphorhynchus castelnaudii Des Murs in Castelnau's *Voyage, Oiseaux*, p. 47. pl. xv. fig. 2 (1856.—Santa Maria, Eastern Peru).
G. cuneatus (nec Licht.) Pelzeln, *l.c.* p. 42 (Borba).

No. 265. (♂) ad., Calama, 24. vii. 1907.—Wing 70; tail 71; bill 12 mm.
No. 900. ♀ ad., Maruins, 3. vi. 1908.—Wing 66; tail 66; bill 12 mm.
"Iris brown, feet dark grey, bill black, below greyish."
Two eggs found in a hole of a tree and taken with the parent bird (No. 900) are uniform dull white, and measure 19 × 15, 18 × 15 mm.

[182. **Dendrornis guttata eytoni** (Scl.).

[*Dendrocolaptes guttatus* Lichtenstein, *Abhandl. Akad. Berlin a. d. Jahren* 1818–19. p. 201 (1820.—"in Brasiliae provincia Bahia"; cf. idem, *l.c.* 1820–21. p. 264).]
Dendrocolaptes eytoni Sclater, *Proc. Zool. Soc. Lond.* xxi. 1853. p. 69. pl. lvii. (July 1854.—Rio Capim, near Pará).
Dendrornis eytoni Pelzeln, *Zur Orn. Bras.* i. p. 45 (part.: Borba).
D. guttata eytoni Hellmayr, *Nov. Zool.* xiv. p. 366 (Borba).

Right bank: Borba (Natterer, Hoffmanns).

As pointed out by me (*l.c.*), the birds from Borba have the light markings of the crown and upper back rather brighter buff, and the belly more suffused with rusty, than typical Pará examples. However, I have lately seen several specimens from Pará, and Villa Braga, left bank of the Tapajóz, which agreed in these respects with those from Borba.]

183. **Dendrornis guttata guttatoides** (Lafr.).

Nasica guttatoides Lafresnaye, *Rev. Mag. Zool.* (2) ii. p. 387 (1850.—Lorette, N.E. Peru); cf. Ménégaux & Hellmayr, *Mém. Soc. d' Hist. Nat. Autun* xix. p. 99.
Dendrornis guttata guttatoides Hellmayr, *Nov. Zool.* xiv. p. 365 (Humaytha).
D. eytoni Pelzeln, *l.c.* p. 45 (part.: Salto Theotonio).

Nos. 846, 856, 873. ♂♂ ad., ♂ juv., Marmellos, 21, 23, 27. xii. 1907.—Wing 115 (♂ juv.), 118, 122; tail 105—110; bill 36 (juv.), 38, 41 mm.

Nos. 850, 851. ♀♀, Marmellos, 22. xii. 1907.—Wing 114, 115; tail 95, 99; bill 39½, 41 mm.

"Iris brown, feet plumbeous, bill grey."

Nos. 155, 202, 205, 421. ♂♂, Calama, 2, 10, 11. vii., 18. viii. 1907.—Wing 120 (No. 202), 124—128; tail 104 (No. 202), 110; bill 39½—42 mm.

No. 771. ♀ ad., Allianca, 11. xi. 1907.—Wing 118; tail 109; bill 41 mm.

"Iris brown, feet plumbeous, bill dark grey."

The series from Marmellos (left bank) agrees in every detail with several topotypical Peruvian skins (in the Munich Museum) and others from Eastern Ecuador, etc. The bill is pale greyish yellow, with the basal third of the upper mandible only dusky; the pale markings on the head and upper back are deep buff, those of the hindneck being conspicuously edged laterally with blackish; the throat bright buff, the ground-colour of the lower parts deep ochraceous; the feathers of the foreneck have irregular blackish or dark brown edges, etc.

The specimens from Calama and Allianca, as well as the adult male obtained by Natterer at Salto Theotonio—*i.e.* those from the right bank—are decidedly intermediate between *guttatoides* and *eytoni*. The light markings are creamy white

on the head, clear buff on the mantle, exactly as in *eytoni* from Borba; underneath some are like *guttatoides*, while others are not distinguishable from *eytoni*. In the shape and colour of the bill they nearly agree with *guttatoides*, the upper mandible being greyish horn-colour, though somewhat darker than in specimens from the left bank (Humaytha, Marmellos, etc.), but not **black** as in *eytoni*. Cf. also *Nov. Zool.* xiv. pp. 59–60.

184. **Dendrornis elegans** Pelz.

Dendrornis elegans Pelzeln, *Zur Orn. Bras.* i. p. 63 (1897.—Engenho do Gama, Rio Guaporé *).

No. 251. ♂ ad., Calama, 22. vii. 1907.—Wing 99; tail 83; bill 32 mm.

Nos. 108, 245, 343, 355. ♀ ad., ♀♀ imm. and juv., Calama, 25. vi., 20. vii., 7, 8. viii. 1907.—Wing 90—96; tail 75—80; bill 28¾—30 mm.

No. 232. ♂ imm., Calama, 15. vii. 1907.—Wing 103; tail 82; bill 31⅓ mm.

Nos. 796, 809. ♀ ad., ♀ imm., Allianca, 20, 30. xi. 1907.—Wing 92—95; tail 76—79; bill 29½—30½ mm.

No. 1016. ♂ ad., Maruins, 14. vii. 1908.—Wing 101; tail 82; bill 29 mm.

Nos. 937, 1014. ♀♀ ad., Maruins, 21. vi., 13. vii. 1908.—Wing 89, 96; tail 74, 80; bill 28, 30½ mm.

"Iris brown, feet plumbeous, bill grey, above darker."

Some of these specimens I have compared with the types in the Vienna Museum, and found them perfectly agreeing. *D. elegans* is a strongly marked species, not in any way to be confounded with *D. insignis* Hellm., which has a more western range. It is well characterized by having the whole back, from the nape down to the chestnut rump, covered with large, pearl-shaped spots of buff, and by the distinct, though narrow, buff shaft-lines or subapical dots on the lesser and median, sometimes also on the greater upper wing-coverts; the bend of the wing is largely cinnamon-rufous; the lateral interscapular feathers are spotted with buff like the back, all these pale markings being conspicuously edged with blackish; the nearly straight bill is dusky horn-colour, yellowish towards the base of the lower mandible.

D. insignis Hellm.† has the pale markings above deeper in colour, narrower and longer, more tear-shaped, and confined to the upper back; the upper wing-coverts are uniform olive-brown; the bill decidedly curved, with the greater part of the upper mandible whitish. This species ranges from Northern Peru through Ecuador to Eastern Colombia.

D. juruana Ihering,‡ from the Rio Juruá, agrees with *D. insignis* in the uniform upper wing-coverts and in the coloration of the upper parts, but the wedge-shaped buff markings of the chest are very much smaller and not extended over the lower breast, and the bill is shaped and coloured as in *D. elegans*. I am greatly indebted to Prof. von Ihering for the loan of two typical specimens, an adult and an immature male.

D. spixii (Less.)§ is the eastern representative of *D. elegans*, from which it mainly differs in the shape of the pale spots on the mantle, uniform olive-brown

* Pelzeln mentions also Manaqueri, but there are no specimens from this locality in the Vienna Museum.

† *Bull. B. O. C.* xv. p. 55 (March 1905.—Samiria, N.E. Peru).

‡ *Revist. Mus. Paulist.* vi. 1904. p. 436: *D. ocellata juruana* (1905.—Rio Juruá).

§ *Picolaptes Spixii* Lesson, *Traité d'Orn.* livr. 4. p. 314 (September 1830.—based on *Dendrocolaptes tenuirostris* (nec Licht.) Spix, *Av. Bras.* i. 1824. p. 88. pl. 91. fig. 2; Brazil).

upper wing-coverts, and in having the foreneck and breast marked with broad, oblong spots of buff. Moreover, there is hardly any rufescent tinge on the bend of the wing. The shape of the bill is exactly alike in the two species. *D. spixii* ranges from Pará westwards to Santarem, right bank of the Rio Tapajóz. Thanks to the kindness of Dr. Charles W. Richmond, I have been enabled to examine the type of *D. fraterculus* Ridgw.,* and found it identical with Pará examples. On the left bank of the Rio Tapajóz, however, *D. elegans* is met with, for Miss Snethlage has lately obtained a specimen at Villa Braga (*Journ. f. Orn.* 1908. p. 508).

The range of *D. elegans* is thus as follows:

Right bank of the Rio Madeira: Calama, Allianca; Maruins, Rio Machados (Hoffmanns); Engenho do Gama, Rio Guaporé (Natterer). Left bank of the Rio Tapajóz: Villa Braga (Snethlage).

Although I expect that *D. elegans*, *D. juruana*, *D. spixii*, and *D. insignis* will prove to be geographical modifications of a single species, it would be unwise to use trinomials until their relations are better understood. *D. pardalotus* (Vieill.), from the Guianas, Orinoco region, and Rio Negro, appears also to belong to this group.

[185. **Dendrornis ocellata** (Spix).

"*Dendrocolaptes ocellatus* (*guttatus*)" Spix, *Av. Bras.* i. p. 88. tab. 91. fig. 1 (1824.—"in sylvis Piauhy," errore! cf. Hellmayr, *Abhandl. Bayer. Ak. Wissensch. II. Cl.* xxii. 3. 1906. p. 634).
Dendrornis ocellata Pelzeln, *Zur Orn. Bras.* i. p. 45 (Borba).

Natterer obtained a good series near Borba, lower Rio Madeira. The specimens are practically identical with Spix's type in the Munich Museum. Though agreeing in shape and colour of bill, *D. ocellata* undoubtedly is specifically distinct from *D. elegans* and its allies. The uniform brown back, with hardly a few, hair-like buff shaft-lines on the nape and adjoining portion of the upper mantle, serves, together with other characters, to distinguish it at first sight.]

186. **Dendrornis obsoleta multiguttata** (Lafr.).

[*Dendrocolaptes obsoletus* Lichtenstein, *Abhandl. Akad. Wissensch. Berlin a. d. Jahren* 1818-19. p. 205 (1820.—Pará; cf. idem, *l.c. a. d. J.* 1820-21. p. 265).]
Nasica multiguttatus Lafresnaye, *Rev. Mag. Zool.* (2) ii. p. 417 (1850.—"De Fontiboa, haut Amazone et du Brésil"); cf. Ménégaux & Hellmayr, *Mém. Soc. d'Hist. Nat. Autun* xix. p. 105 (crit.).
Dendroplex similis Pelzeln, *Zur Orn. Bras.* i. pp. 46, 64 (1867.—Engenho do Gama, Rio Guaporé; Borba, Rio Madeira; Rio Negro).

Nos. 124, 278. ♀ ad., ♀ imm., Calama, 29. vi., 27. vii. 1907.—Wing 95, 90; tail 75; bill 25 mm.

"Iris dark brown, feet greyish brown, bill grey."

Specimens from the Rio Madeira (Calama, Borba) agree perfectly with the types from Fonteboa. The original example of *D. obsoletus* said to be from "Pará" differs by the pale stripes on the mantle being not or very indistinctly bordered with dusky. Until more specimens with definite localities come to hand it cannot be said with certainty whether this character is of any value. Miss Snethlage † has lately recorded *D. obsoleta* from the Tapajóz and Tocantins Rivers, unfortunately without any further comment.

* *Dendrornis fraterculus* Ridgway, *Proc. U. S. Nat. Mus.* x. 1887. p. 526 (1888.—Diamantina, near Santarem).

† *Journ. f. Orn.* 1908. pp. 508, 530.

187. **Dendroplex picus kienerii** (Des Murs).

[*Oriolus Picus* Gmelin, *Syst. Nat.* 1. i. p. 384 (1788.—based on D'Aubenton, Pl. enl. 605 : Cayenne).]

Dendrornis kienerii Des Murs in Castelnau's *Voyage, Oiseaux* p. 45. pl. xiv. fig. 1 (1856.—Ega, Rio Solimoëns) ; cf. Ménégaux & Hellmayr, *Mém. Soc. d'Hist. Nat. Autun* xix. pp. 108-10).

Dendroplex picus Pelzeln, *Zur Orn. Bras.* i. p. 46 (Salto Theotonio, Borba) ; Hellmayr, *Nov. Zool.* xiv. p. 366 (Borba).

Nos. 103, 285, 391. ♂♂ ad., Calama, 24. vi., 28. vii., 14. viii. 1907.—Wing 111—114 ; tail 100—104 ; bill 28—29½ mm.

Nos. 388, 524, 722. ♀♀ ad., Calama, 12. viii., 7. ix. 1907 ; S. Isabel, Rio Preto, 19. ix. 1907.—Wing 97—103 ; tail 85½—90 ; bill 27—29 mm.

"Iris brown, feet grey or green, bill grey or pale green."

These specimens, like others from Chiquitos (Eastern Bolivia), Mattogrosso, and the Rio Purús, present larger dimensions than a series of skins from Cayenne, Venezuela, Bahia, and Goyaz, and are much more rufescent on the lower parts. Ménégaux & Hellmayr (*l.c.*) have already called attention to these differences and suggested the possibility of recognizing a race *D. picus kienerii*. Since then, I have examined much additional material, and, although single specimens from the interior of Brazil and Peru are sometimes hardly larger, I am now convinced that *kienerii* is a fairly well-marked subspecies. The range of *D. picus picus* and its ally is as follows :—

(*a*) *D. picus picus* (Gm.).

Cayenne, Surinam, British Guiana, Venezuela (Orinoco Valley). North Brazil: Rio Branco and Rio Negro (Barcellos). Eastern Brazil : from Marajó and Pará along the Amazons to Obidos and Monte Alegre, the left bank of the Tapajóz (Itaitúba), south to Bahia and the sources of the Rio Araguay (Goyaz, Rio Thesouras, Rio dos Piloens, etc.).

Obs. Specimens from Barcellos, Obidos, Itaitúba, and Goyaz are perfectly similar to the topotypical Cayenne bird.

(*b*) *D. picus kienerii* (Des Murs).

Central Brazil, Mattogrosso : Cuyabá, Villa Maria (on the Rio Paraguay) ; Villa Bella de Mattogrosso, São Vicente, Rio Guaporé (Natterer) ; Rio Madeira : Salto Theotonio, Borba (Natterer), Calama, S. Isabel (Hoffmanns) ; Rio Purús : Monte Verde * ; Rio Solimoëns : Ega (Castelnau). Eastern Bolivia : Chiquitos (D'Orbigny). Eastern Peru : Sarayacu, on the Ucayali (Castelnau), Pebas (idem), etc.

Obs. The birds from Cuyabá and Villa Maria are extreme specimens of this form, being large-sized and strongly suffused with rufescent underneath. For measurements see *Mém. Soc. d'Hist. Nat. Autun* xix. pp. 109-10. It is well to remark that the exceptionally small ♂ from Rio Guaporé (wing 88½, tail 75 mm.) is a very young bird, consequently of very little use.

188. **Dendrexetastes rufigula** subsp.

[*Dendrocolaptes* (*Orthocolaptes*) *rufigula* Lesson, *Œuvr. compl. Buffon* (ed. Lévêque), xx. p. 281 (1847.—Cayenne).]

No. 407. ♀ imm., Calama, 16 viii. 1907. "Iris yellowish brown, feet dark grey, bill greyish green."—Wing 104 ; tail incomplete ; bill 31 mm.

* *D. p. kieneri* Snethlage, *Journ. f. Orn.* 1908. p. 14.—Specimen examined.

This bird stands somewhat between *D. r. rufigula*, from the Guianas, etc., and *D. r. devillei*, from Upper Amazonia. It agrees with the latter in the pale greyish colour of the bill, and in having the white markings below restricted to the foreneck; however, the ground-colour of the lower parts is pale brown (not tinged with ochraceous), the throat shows half-concealed white spots, and the hindneck as well as the sides of the neck are streaked with white. In all these points it resembles *D. r. rufigula*, but the white markings are narrower, and those on the hindneck have **no** or scarcely any black lateral edges.

On the left bank of the Rio Madeira another form takes its place :—

[189. **Dendrexetastes rufigula devillei** (Lafr.).

Dendrocolaptes Devillei **Lafresnaye**, *Rev. Mag. Zool.* (2) ii. p. 102 (1850.—Sarayaçu, Eastern Peru).

Dendrexetastes devillei **Heilmayr**, *Nov. Zool.* xiv. 1907. p. 366 (Humaytha).

Left bank of the Rio Madeira : Humaytha (Hoffmanns), thence through Western Brazil (Bom Lugar, Rio Purús *) to Eastern and Northern Peru (Sarayaçu, Iquitos, Samiria, etc.).]

[Having lately examined specimens of the three forms of *Dendrexetastes*, I think a few words about their distinguishing characters may be welcome to ornithologists.

(*a*) *D. rufigula rufigula* (Less.).

Syn. *Dendrocolaptes Temminckii* **Lafresnaye**, *Rev. Mag. Zool.* (2) iii. p. 145. pl. iv. (March 1851.—"Santa Fé de Bogotá"—errore !).

Dendrexetastes capitoides **Eyton**, *Contrib. to Ornith.* 1851. p. 76 (autumn 1851.—no locality).

Hab. French Guiana : Cayenne (Lesson, etc.), Ouanary (Geay) ; Surinam : near Paramaribo (Chunkoo ; two specimens in Tring Museum) ; British Guiana : Mines District (two specimens in Tring Museum). North Brazil : Barra do Rio Negro = Manáos (Natterer).

Characters. This form is characterized by having the foreneck and chest thickly covered with large, oval, whitish spots, bordered by a very distinct black line ; the chin only is uniform rusty buff, while the throat shows half-concealed white shaft-streaks ; nape and sides of neck with conspicuous, slightly pointed, whitish stripes, more or less distinctly edged laterally with black ; ground-colour of lower parts pale brown with a faint ochreous tinge. Upper mandible dark horn-brown ; lower one yellowish grey, darker at base.

Obs. Specimens from British Guiana and Manáos are practically identical. Two from Surinam differ by having slight dusky cross-lines in the middle of the abdomen and on the under tail-coverts. The sides of the head, including superciliary and temporal regions, are uniform earthy brown in *D. r. rufigula*, though in one specimen each from Surinam and British Guiana a few narrow whitish lines are to be noticed along the upper margin of the ear-coverts.

	Wing.	Tail.	Bill.	
1. ♂ ad., Paramaribo	106	110	32	mm.
— Imm. „	100	100 (moulting)	31	„
3, 4. Adults, Mines District, British Guiana	105, 109	108, 112	30, 32	„
5. ♂ ad., Barra do Rio Negro (Natterer) .	105	114	damaged	„

* Snethlage, *Journ. f. Orn.* 1908. p. 14.

(*b*) *D. rufigula paraensis* Lorenz-Liburnau.

Dendrexetastes paraensis Lorenz-Liburnau, *Verhandl. Zool. Bot. Gesellsch. Wien* xlv. p. 363 (1895.—Pará) ; idem, *Ann. Hofmus. Wien* xi. 1896. pp. 1-4. pl. 1.

Hab. N.E. Brazil : Marco da Legoa near Pará (Princess Therese of Bavaria).

Characters. Differs from *D. r. rufigula* by its stronger, stouter bill, slightly darker back, duller, more earthy brown under parts, and especially by having a row of distinct, though narrow, white streaks, laterally bordered with black, running along the upper margin of the ear-coverts, from the sides of the neck to above the eye.

1. Immature, Marco da Legoa, Pará, *Type.* Wing 104 ; tail 100 ; bill 32 mm.

Obs. I am under great obligation to H.R.H. the Princess Therese of Bavaria for the loan of the typical specimen.

(*c*) *D. rufigula* subsp.

Hab. North Brazil : Calama, right bank of the Rio Madeira.

See above. More material is required to establish the status of this form ; it would not be scientific to base a new name on a single immature specimen.

(*d*) *D. rufigula devillei* (Lafr.).

Hab. Eastern Peru : Sarayaçu (Castelnau & Deville), Iquitos (Whitely), Samiria (Hauxwell). Western Brazil: Bom Lugar, Rio Purús (Snethlage) ; Humaytha, Rio Madeira (Hoffmanns).

Characters. Differs from (*a*) and (*b*) by lacking the white longitudinal streaks on the nape and sides of the neck. Moreover, the throat is uniform ochreous, without any trace of white stripes ; the foreneck only shows a number of narrow buff shaft-lines ; the ground-colour of breast and abdomen is much more tinged with ochraceous. The bill, too, is paler, the upper mandible being light yellowish grey, like the lower one.

	Wing.	Tail.	Bill.
1. ♂ ad., Sarayaçu, East Peru, *Type of species*, Paris Museum	108	112	32 mm.
2. ♂ ad., Humaytha, Rio Madeira, Tring Museum . . .	105	109	32 „]

190. **Hylexetastes uniformis** Hellm.

Hylexetastes uniformis Hellmayr, *Rev. Franç. d'Ornith.* i. No. 7. p. 100 (November 1909.—Calama, Rio Madeira).

Xiphocolaptes Perrotii (nec *Dendrocolaptes Perrotii* Lafr.) Pelzeln, *Zur Orn. Bras.* i. 1867. p. 43 (Borba).

No. 271. ♂ vix ad., Calama, 25. viii. 1907. "Iris yellowish brown, feet greyish green, bill greyish red."—Wing 126 ; tail (slightly moulting) 110 ; bill 34 mm. *Type of the species.*

[No. 16013, Vienna Museum. ♂ imm., Borba, 9. i. 1830 (Natterer coll.).—Wing 125 ; tail 116 ; bill 38½ mm.

No. 16012, Vienna Museum. ♀ ad., Borba, April 1830.—Wing 127 ; tail 116 ; bill 35 mm.

No. 16014, Vienna Museum. ♀ juv., Borba, 27. vi. 1830.—Wing 126 ; tail 112 ; bill 32 mm.]

Adult. Pileum clear rufescent brown ; back bright cinnamon-brown, decidedly

contrasted with colour of crown ; lower rump and upper tail-coverts chestnut. Upper wing-coverts cinnamon-brown, somewhat paler and duller than the back, the inner webs of the greater series more rufous ; remiges chestnut, the outermost primaries narrowly edged with brownish. Tail uniform chestnut. A narrow rim round the eye bare of feathers, only a few small plumules on the lower edge of the eyelid. Sides of the head (viz. lores, cheeks, malar region, ear-coverts, and superciliary region) dull greyish brown (ashy brown), the shafts of the auricular feathers for the greater part whitish. Lower parts uniform earthy brown with a slight rufescent tinge, more conspicuous on sides, flanks, and under tail-coverts. Under wing-coverts dull orange, mixed with brownish towards the edge of the wing ; broad margin to inner web of remiges orange-buff. Bill dark red.

The adult female obtained by Natterer agrees with the type but for the slightly more rufescent breast and abdomen.

Another, immature, male from Borba is even more strongly washed with cinnamomeous on the lower parts ; the feathers of the occiput and crown are narrowly edged with buff, and the bill is longer as well as slenderer.

An evidently young female from Borba has the sides of the head more brownish, and a shorter, darker bill.

This new species differs from *H. perrotii* (Lafr.) * in several important points. The latter bird is larger (two Cayenne skins in the British Museum measure : wing 135—140 ; tail 120—122 mm.) ; the anterior portion of the throat is buffy, in conspicuous contrast to the brown chest, etc. ; the middle of the belly shows more or less distinct dusky cross-lines ; furthermore, there is a well-defined dingy white band running from the nasal plumes under the eye to the lower portion of the auricular region.

H. perrotii has been described from Colombia. This locality, however, was most probably erroneous, since the specimens in the British Museum, skins of the unmistakable Cayenne make, agree perfectly with Lafresnaye's original description.

H. uniformis is, as yet, only known from the right bank of the Rio Madeira, and the four specimens described above are the only ones in European collections.†

191. **Nasica longirostris** (Vieill.).

Dendrocopus longirostris Vieillot, *Nouv. Dict.*—xxvi. p. 117 (1818.—ex Levaillant : "Brésil").
Nasica longirostris Pelzeln, *l.c.* p. 44 (Salto Girao, Borba) ; Hellmayr, *Nov. Zool.* xiv. p. 367 Humaytha, Borba).

Nos. 88, 522, 725. ♂♂ ad., Calama, 21. vi., 7. ix., 23. x. 1907.—Wing 140—147 ; tail 134—140 ; bill 68—78 mm.

Nos. 534, 583. ♀♀, Jamarysinho, 10, 21. ix. 1907.—Wing 134, 140 ; tail 128, 136 ; bill 70 mm.

No. 1050. ♀ imm., Maruins, 28. vii. 1908.—Wing 135 ; tail 126 ; bill 70 mm. "Iris light brown, feet grey, bill yellowish grey or pale grey."

This singular bird is widely distributed in Amazonia and Guiana.

* *Dendrocolaptes Perrotii* Lafresnaye, *Rev. Zool.* vii. p. 80 (1844.—"Colombie"); *Mag. Zool.* 1844. Oiseaux, pl. 54 ; *Rev. Mag. Zool.* (2) ii. 1850. p. 101 ; Sclater, *Cat. Birds Brit. Mus.* xv. p. 141 (Cayenne).

† Though no species of *Picolaptes* has as yet been discovered in the Madeira Valley, one of the plain-capped forms, *P. fuscicavillus* Pelz. or *P. layardi* Scl., is very likely to occur there.

[192. **Campylorhamphus trochilirostris procurvoides** (Lafr.).

Xiphorhynchus procurvoides Lafresnaye, *Rev. Mag. Zool.* (2) ii. p. 376 (1850.—Cayenne).
Xiphornis procurvoides Hellmayr, *Nov. Zool.* xiv. p. 367 (Borba).
X. trochilirostris (nec Licht.) Pelzeln, *l.c.* p. 44 (part.: Borba).

Right bank: Borba (Natterer, Hoffmanns).

Thanks to the courtesy of Dr. von Lorenz, I now have, in addition to the adult female out of Mr. Hoffmann's first Madeira collection, three more specimens from Borba (Natterer coll.) before me, and can state that the supposed differences noticed by me *l.c.* have no real existence. Two of the skins show slight blackish edges to the pale shaft-streaks on the foreneck and chest, but the third (Vienna Museum, No. 15914, ♂ ad., Borba, April 8, 1830) has no traces thereof, agreeing in this respect with the series of *C. t. procurvoides* from Cayenne and British Guiana. The olive tint of the lower plumage is not a constant character either, two of Natterer's examples being even more strongly tinged with rufescent underneath than some of the Guianan ones. Moreover, in all principal points, *i.e.* narrow buff shaft-lines on the head, immaculate dark brown back, deep rufous wings and tail, etc., etc., the Madeira birds are exactly similar to the latter.

The geographical variation of *C. trochilirostris* not having been well understood hitherto, I think, a few words about the conclusions arrived at by studying a large amount of material may be welcome to ornithologists. The following races appear to be easily recognizable:—

(*a*) *C. trochilirostris trochilirostris* (Licht.).

Dendrocolaptes trochilirostris Lichtenstein, *Abhandl. Akad. Berlin a. d. Jahren* 1818-19. p. 207. pl. iii. (1820.—"in Brasiliae provincia *Bahia*"; cf. *l.c.* 1820-21. p. 263).

Hab. Eastern Brazil: Bahia (Sellow, Robert, etc.).

Characters. Back "wood-brown" or "cinnamon-brown" (Ridgw. *Nomencl.* iii. figs. 19, 20), with sharply defined buff or whitish shaft-stripes (never margined with blackish); crown and nape darker "wood-brown," marked with large, rounded, buff stripes, surrounded by a narrow blackish brown edge at the tip; rump, upper tail-coverts, wings, and tail clear cinnamon-rufous. Throat white, the feathers of the lower portion narrowly fringed with brown; remainder of lower parts pale "wood-" or "cinnamon-brown," covered with broad, whitish or buff shaft-stripes, laterally never edged with blackish; lower abdomen and under tail-coverts uniform immaculate pale brown. Bill clear red.

Wing 93—102; tail 82—90; bill 58—64 mm.

Material. Twenty specimens from Bahia, only one of them (♂ ad., Lamarão, Bahia, A. Robert coll., No. 1549) sexed.

(*b*) *C. trochilirostris venezuelensis* (Chapm.).

Xiphorhynchus venezuelensis Chapman, *Bull. Amer. Mus. N.Y.* ii. p. 156 (1889.—Venezuela: types Nos. 2246, 2247 Museum Boston Soc. Nat. Hist.).

Hab. Venezuela: Caicara, Altagracia, on the Orinoco River (Cherrie), Puerto Cabello (Starke, Mus. H. v. Berlepsch), Caracas (Goering), etc. North Brazil: Rio Amajaú, tributary of the Rio Negro, below Barcellos (Natterer).* Colombia: Remedios, Antioquia (Salmon); Bogotá collections, etc. Panama: Lion Hill Station (McLeannan; *fide* Chapman).

* *X. trochilirostris* Pelzeln, *Zur Orn. Bras.* p. 44.—Pelzeln also registers Marabitanas and Barra do Rio Negro, but these specimens are no longer to be found in the Vienna Museum.

Characters. This well-characterized form differs from the preceding one by its longer bill; more heavily as well as more regularly striped throat; darker, nearly blackish crown; considerably darker, olive-brown ground-colour of the back and lower parts; and deeper, chestnut-rufous wings and tail. Bill clear red.

	Wing.	Tail.	Bill.	
Three males from the Orinoco	99—102	88—92	70—76	mm.
One imm. female from the Orinoco . . .	92	90	68	„
One adult from Remedios	99	94	—	„
Five adults from Bogotá	90—96	80—90	64—73	„
One young male from Rio Amajaú . . .	90	83	62	„

Obs. Colombian birds agree well with those from Venezuela, except that the brown of the under parts is, as a rule, slightly darker, and the rufous of wings and tail rather deeper. These trifling differences, however, should be confirmed by a larger series. Panama specimens I have not seen, but according to Mr. Chapman they are referable to the present race. The single young bird from the Rio Amajaú is much more rufous brown on the lower parts than any other specimen in hand, though in other respects it agrees perfectly with *venezuelensis*. Its bill is apparently not full-grown.

(*c*) *C. trochilirostris procurvoides* (Lafr.).

Hab. French Guiana: Cayenne (Lafr.), Ipousin, Rio Approuague (Cherrie). British Guiana: Bartica Grove, Camacusa, River Carimang (Whitely), Mazaruni River (Quelch), etc. North Brazil: Borba, Rio Madeira (Natterer, Hoffmanns).

Characters. Above deep "raw umber" (Ridgw. iii. 14), crown and nape with very narrow, buff shaft-lines or small elongated spots; back either wholly immaculate or with a few hair-like, buff lines on the uppermost portion; rufous of rump, wings, and tail even deeper than in *venezuelensis*. Throat strongly varied with deep brown; remainder of lower parts dark raw umber; foreneck and breast with narrow, buff shaft-streaks, not or slightly edged laterally with dusky. Bill considerably darker red than in (*a*) and (*b*).

	Wing.	Tail.	Bill.	
One female, Ipousin, Cayenne	91	84	60	mm.
Four adults, British Guiana	92—94	88	61—64	„
One adult male, Borba	92	84	61	„
Two adult females, Borba	92, 94	86, 92	60, 62	„
One young male, Borba	88	84	52	„

Obs. This strongly characterized race cannot be confused with any other. Its deep brown coloration, with the pale markings much restricted, and the dark red bill distinguish it at a glance. Judging from the variation shown by the series from British Guiana, I should say that *X. dorsoimmaculatus* Chapm.* is not separable from *C. t. procurvoides*.

(*d*) *C. trochilirostris thoracicus* (Scl.).

Xiphorhynchus thoracicus Sclater, *Proc. Zool. Soc. Lond.* 1860. p. 277 (1860.—Babahoyo, S.W. Ecuador).

Hab. Western Ecuador: Babahoyo, Esmeralda (Fraser), Chimbo (Siemiradzki), Yaguachi (Stolzmann), S. Javier, Paramba, Pambilár (Miketta & Flemming). N.W. Peru: Lechugal (Jelski).

* *Bull. Amer. Mus. N. Y.* ii. p. 159 (1889.—Cayenne ?).

Characters. In general coloration not unlike *C. t. venezuelensis*, of Colombia, etc., but easily recognizable by the buff shaft-streaks of the crown, mantle, foreneck, and breast being laterally very distinctly edged with blackish.

	Wing.	Tail.	Bill.
Three adult males from W. Ecuador . . .	100—102	93—99	68—72 mm.
Three females from W. Ecuador . . .	92—95	87—92	65—68 „

(*e*) *C. trochilirostris lafresnayanus* (D'Orb.).

Dendrocolaptes lafresnayanus D'Orbigny, *Voyage, Oiseaux* p. 368. pl. 53. fig 2 (1847.—"Nous l'avons rencontrée dans les îles du rio Paraná, près de *Goya*, au 29° degré de latitude. Nous l'avons retrouvée ensuite dans la province de *Chiquitos* (Bolivie). . . ."—The latter locality fixed as t. typica.*

Xiphorhynchus rufo-dorsalis Chapman, *Bull. Amer. Mus. N. Y.* ii. p. 160 (1889.—Corumbá, S.W. Mattogrosso).

Hab. E. Bolivia: Chiquitos (D'Orbigny). Western Mattogrosso: Cuyabá (Natterer), Corumbá (Smith, Borelli), Urucúm, Carandasinho (Borelli †). Argentine, Paraná: Goya (D'Orbigny), Ocampo (Venturi).

Characters. Nearest to *C. t. trochilirostris*, but easily recognizable by its larger size, much longer bill, and different coloration. The back is rich ferruginous, of nearly the same colour as the rump and tail, and the under parts are bright tawny ochraceous. The light markings above and below are arranged in a similar way to those of *C. t. trochilirostris*. Bill of the same clear red.

	Wing.	Tail.	Bill.
Three adult males from Cuyabá . . .	108—112	95—105	75—78 mm.
Three adult females from Cuyabá . .	103—107	90—95	73—80 „
One adult (the type) from Chiquitos . .	112	95	73 „
Two young males from East Bolivia . .	102, 110	84, 92½	64 „
Three males from Ocampo, Argentine . .	111—118	102—105	95—100 „
Two females from Ocampo	102, 106	95, 96	84, 95 „

Obs. Mr. Chapman separated a single unsexed specimen from Corumbá (Mattogrosso), on account of its larger size and fulvous colour of the longitudinal markings, from the Bolivian *lafresnayanus*. With six skins from Mattogrosso (*rufodorsalis*) and three of the latter before me, I fail to see the slightest difference between the two series. The former are certainly not larger, as is evident from the table of measurements given above, and the colour of the pale markings on the head and under parts is subject to seasonal variation. This is well illustrated by the Cuyabá series: in a freshly moulted adult female (June 13) they are bright buff, while two specimens in worn plumage have them nearly whitish. On the other hand, the examples from Ocampo have decidedly longer bills, though in coloration they are not different.]

[193. **Deconychura stictolaema** (Pelz.).

Sittasomus stictolaemus Pelzeln, *Zur Orn. Bras.* i. p. 59 (1867.—Borba); cf. Hellmayr, *Nov. Zool.* xiv. p. 368 (crit.).

Right bank: Borba (Natterer).

The type of this very distinct species still remains unique in the Vienna Museum. About its affinities see my remarks *l.c.*]

* The marked type in the Paris Museum is from Chiquitos.

† Salvadori, *Boll. Mus. Torino* xv. No. 378. 1900. p. 8.

194. **Deconychura longicauda** (Pelz.).

Dendrocincla longicauda **Pelzeln**, *Zur Orn. Bras.* i. p. 60 (1867.—Borba ; Marabitanas and Barra, Rio Negro).
Deconychura longicauda **Hellmayr**, *Nov. Zool.* xiv. pp. 367, 368 (Borba).

No. 162. ♀ ad., Calama, 3. vii. 1907. "Iris dark brown, feet bluish black, bill black, below greyish."—Wing 97 ; tail 94 ; bill 23½ mm.

Slightly smaller than Pelzeln's original examples in the Vienna Museum, but perfectly similar in coloration. The latter measure as follows :—

	Wing.	Tail.	Bill.
1. No. 15907. ♂ ad., Borba, December 29, 1829. *Type of species*	107	107	27 mm.
2. No. 15906. ♂ ad., Barra, May 6, 1833 . . .	111	113	27 „
3. No. 15904. ♂ ad., Marabitanas, February 28, 1831 .	104	102	26½ „
4. No. 15905. ad., Barra, May 4, 1833 . . .	102	106	24 „

[195. **Dendrocincla fuliginosa** (Vieill.).

Dendrocopus fuliginosus Vieillot, *Nouv. Dict.* xxvi. p. 117 (1818.—ex Levaillant : Cayenne) ; cf Ménégaux & Hellmayr, *Mém. Soc. d'Hist. Nat. Autun* xix. 1906. p. 119 (crit.).
Dendrocincla fumigata Pelzeln, *l.c.* p. 42 (Borba).
D. fuliginosa Hellmayr, *Nov. Zool.* xiv. p. 368 (Humaytha).

Humaytha (Hoffmanns), Borba (Natterer).

I have examined Natterer's two skins from Borba, and found them to agree with others from Cayenne (cf. *Nov. Zool.* xii. 1905. p. 280). Mr. Oberholser* gives the range of *D. fuliginosa* as : "Lower Amazonia, south to Bahia, north to British Guiana" ; but I suppose "Bahia" is a pen-slip for Pará, this being the most southerly established locality on the Brazilian east coast. I have seen specimens from the following localities : Cayenne, French Guiana (the type in the Paris Museum ; a second example in Vienna) ; Roraima, R. Rupununi (H. Whitely ; Mus. Berlepsch and Tring) ; Manáos (Natterer) ; Diamantina, Tapajóz (topotype of *D. rufo-olivacea* Ridgw. : U. S. Mus. Wash.) ; Pará (Natterer, Wallace, Steere, Robert, etc.) ; Borba (Natterer) ; Humaytha (Hoffmanns). There is considerable individual variation in the series, but I am unable to make out any geographical races.]

196. **Dendrocincla merula** (Licht.).

Dendrocolaptes Merula Lichtenstein, *Abhandl. Akad. Berlin a. d. Jahren* 1818–19. p. 208 (1820.—Cayenne : Mus. Berlin).
Dendrocincla merula Pelzeln, *l.c.* p. 42 (Borba, Salto Theotonio) ; Hellmayr, *Nov. Zool.* xiv. p. 369 (Humaytha).

Nos. 290, 303. ♂ ad., ♂ imm., Calama, 29, 30. vii. 1907.—Wing 104 ; tail 87, 89 ; bill 26 mm.

Nos. 63, 233. ♀ ♀ ad., Calama, 17. vi., 15. vii. 1907.—Wing 99, 100 ; tail 82 ; bill 24 mm.

"Iris grey or greyish brown, feet plumbeous, bill black, below grey."

The three adult birds have the lower mandible except the tomiae pale yellow, while in the immature male it is mainly dusky. The Calama series is decidedly larger and darker than a single unsexed Cayenne specimen (S. Laurent-du-Maroni, Le Moult coll., Munich Museum). However, several examples from Pará, Caura,

* *Proc. Acad. Nat. Sci. Philad.* 1904. p. 453.

etc., agree in the small size with the latter, and the intensity of coloration is subject to much individual variation (cf. *Nov. Zool.* xii. 1905. p. 281).

D. merula is easily distinguishable among its affines by its dark general coloration, by the large whitish patch on the throat, and especially by having the median and greater wing-coverts chestnut-rufous like the remiges. It is widely distributed in Amazonia, being found in Cayenne, British Guiana, on the Orinoco and its tributary the Caura, on the Rio Negro, on the Amazons and its affluents from Pará to the Ucayali.*

197. **Dendrocolaptes hoffmannsi** Hellm.

Dendrocolaptes hoffmannsi Hellmayr, *Bull. B. O. C.* xxiii. p. 66 (1909.—Calama, Allianca : Rio Madeira).

No. 128. ♂ ad., Calama, 29. vi. 1907. "Iris brown, feet plumbeous, bill grey."—Wing 140 ; tail 120 ; bill 37 mm. *Type of species.*

No. 234. ♀ ad., Calama, 15. vii. 1907. "Iris light grey, feet and bill grey."—Wing 141 ; tail 132 ; bill 35 mm.

No. 763. ♀ juv., Allianca, 8. xi. 1907. "Iris brown, feet dark grey, bill black."—Wing 132 ; tail 114 ; bill 36 mm.

♂ ad. Top of the head dull rufescent brown, each feather with a hair-like buff shaft-line, and a very distinct, blackish apical margin ; crown and occiput strongly tinged with cinnamomeous ; nape and upper back uniform rufescent brown, most of the feathers with a hair-like buff shaft-line ; rump and upper tail-coverts deep cinnamon-rufous. Upper wing-coverts uniform brown like the back, those of the greater series tinged with rufous on the inner web. Remiges deep cinnamon-rufous, the outer primaries dusky at the tip and slightly edged with olivaceous along outer web. Rectrices deep cinnamon-rufous, with the shafts nearly blackish. Lores grey, with pale shaft-lines. Cheeks, auricular and temporal regions buff, the feathers edged with brown or blackish ; above the eye a narrow line of buff spots, edged with dark brown ; sides of the neck dull olive-brown, narrowly streaked with buff. Chin dingy greyish buff; throat and foreneck dull olive-brown, each feather with a very distinct (about 1 mm. wide) longitudinal streak of buff, bordered laterally by an irregular dusky line, or by a number of rather indistinct dusky dots ; remainder of lower parts dull ochreous brown, each feather crossed by three very distinct, though narrow, dusky lines. Axillaries, under wing-coverts, and edge of the wing orange-buff, regularly barred with dusky. Bill : upper mandible blackish, lower one horn-colour, dingy yellowish at the base.

The female differs by having fewer or no pale shaft-lines on the upper back, and by the markings of the throat and foreneck being less clearly defined. The young bird is rather more reddish on the back and more ochreous on the belly than the adults.

This new species belongs undoubtedly to the group of *D. pallescens* Pelz.† and *D. plagosus* Salv. & Godm.‡; it is, however, quite distinct from either of them. With the former it agrees notably in the uniform (not cross-banded) back and upper wing-coverts, as well as in the pattern of the pileum, etc. ; but *D. pallescens* has no cinnamomeous tinge about the head, the blackish apical edges are much less conspicuous and nearly obsolete on the hind-crown, while the much broader

* Sarayaçu, Castelnau coll. in Paris Museum.

† *Zur Orn. Bras.* i. pp. 43, 61 (1867.—Estiva and Engenho do Gama, Western Mattogrosso).

‡ *Ibis* 1883. p. 210 (Camacusa, Brit. Guiana).

buff shaft-lines of the throat and foreneck extend also over the chest, etc. Moreover, the bill is somewhat flatter, less compressed terminally, and paler in colour, being mostly horny whitish. *D. plagosus* shares with *D. hoffmannsi* the shape and colour of the bill, but differs widely in coloration. The pileum is clear olive-brown with broad, buffish shaft-stripes, which are, laterally and terminally, bordered with blackish; the back, lesser and median wing-coverts show more or less distinct dusky cross-lines; the buff throat-feathers have, on each side, several marginal spots of dusky; finally, the chest, breast, and abdomen are much more broadly and more regularly banded with blackish.

[198. **Dendrocolaptes certhia concolor** Pelz.

[*Picus Certhia* Boddaert, Tabl. Pl. enl. p. 38 (1783.—based on D'Aubenton, Pl. enl. 621: "Le Picucule, de Cayenne").]

Dendrocolaptes concolor Pelzeln, *Zur Orn. Bras.* i. pp. 43, 62 (1867.—Villa Bella de Matogrosso; Salto do Girao and Borba).

Rio Madeira: Salto do Girao, Borba (Natterer). Not obtained by Mr. Hoffmanns.

The typical series, kindly lent by Dr. von Lorenz, differ from a very large suite of *D. c. certhia*, from North Brazil, Cayenne, Guiana, and Venezuela, by lacking the dusky cross-bands on the back and upper wing-coverts; the under parts are nearly uniform ochreous brown, with but a few obsolete cross-lines in the middle of the abdomen; the feathers of the pileum pale olive-brown, indistinctly edged with dusky at the tip, while in *D. c. certhia* they are alternately banded with olive-brown and blackish. The bill is dark red, as in *D. c. certhia*.

On the Tapajóz a nearly allied form, *D. c. ridgwayi* Hellm.,* is met with. It has lately been rediscovered at Villa Braga and Itaitúba, on the left bank of that river.†]

199. **Cymbilanius lineatus lineatus** (Leach).

Lanius lineatus Leach, *Zoolog. Misc.* i. pl. vi. p. 20 (1814.—Berbice, British Guiana).
Cymbilanius lineatus Pelzeln, *Zur Orn. Bras.* p. 74 (Borba).
C. l. lineatus Hellmayr, *Nov. Zool.* xiv. p. 368 (Humaytha, Paraiso, Borba).

Nos. 331, 397. ♂♂ ad., Calama, 5, 15. viii. 1907.—Wing 73, 74; tail 68, 70; bill 22 mm.

No. 794. ♂ ad., Allianca, 19. xi. 1907.—Wing 75; tail 70; bill 22 mm.

No. 765. ♀ ad., Allianca, 8. xi. 1907.—Wing 76; tail 69; bill 22 mm.

"Iris red, feet plumbeous or blackish, bill black, below grey."

Identical with Cayenne skins. Distributed all over the great Amazonian forest region from Cayenne and Guiana to the eastern slopes of the Andes. In N.W. Ecuador, Western Colombia, and southern Central America it is replaced by a closely allied race, *C. lineatus fasciatus* Ridgw.

200. **Thamnophilus major borbae** Pelz.

[*Thamnophilus major* Vieillot, *Nouv. Dict.* iii. p. 313 (1816.—ex Azara: Paraguay).]
Thamnophilus borbae Pelzeln, *Zur Orn. Bras.* ii. p. 140 (1868.—Borba).
T. major borbae Hellmayr, *Nov. Zool.* xiv. 1907. p. 369 (Humaytha, Borba).

No. 395. ♂ ad., Calama, 15. viii. 1907.—Wing 90; tail 72; bill 23½ mm.

No. 539. ♂ ad., Jamarysinho, 12. ix. 1907.—Wing 93; tail 77; bill 25 mm.

* *Nov. Zool.* xii. p. 282 (1905.—Diamantina, Santarem).

† *D. concolor ridgwayi* Snethlage, *Journ. f. Orn.* 1908. p. 509.

Nos. 743, 793, 538. ♀ ♀, Calama, 1. xi. 1907 ; Allianca, 19. xi. 1907 ; Jamary-sinho, 12. ix. 1907.—Wing 87—92 ; tail 71—74 ; bill 24—25 mm.

" Iris red, feet plumbeous, bill black."

The males have rather more white in the tail than a series from Borba and Humaytha, the two (in No. 395 the three) outer rectrices of each side showing a distinct white apical margin and several white spots or bands on their inner web. They form the transition to *T. m. semifasciatus* (Cab.), in which, however, the white markings are more numerous (about eight to ten on each feather) and much more regular. A specimen from Itaitúba, left bank of the Tapajóz (cf. *Nov. Zool.* xiv. p. 16), is intermediate between *semifasciatus* (from Pará, Guiana, etc.) and the examples from the Rio Machados.

T. m. borbae inhabits both banks of the Rio Madeira, but is not known to occur elsewhere.

[201. **Thamnophilus nigrocinereus tschudii** Pelz.

Thamnophilus tschudii Pelzeln, *Zur Orn. Bras.* ii. p. 141 (1868.—Borba, Rio Madeira).

Right bank : Borba (Natterer). Not obtained by Mr. Hoffmanns.

Occurs also on the Peruvian Amazons (Iquitos, Nauta), whence I have seen specimens in the British Museum and in Count Berlepsch's collection.

T. nigrocinereus, *T. cinereoniger*, *T. huberi*, and *T. tschudii* are mere geographical representatives of the same type, hence more properly designated by trinomials. The last-named form is slightly more differentiated than the three others, yet sufficient evidence of intergradation is furnished by a series of adult males as shown below. In the following lines a condensed review of the distinguishing characters, together with the principal synonymy and a short account of the range of the four races, is given, which, it is hoped, may aid naturalists in the determination of these scarce birds.

(*a*) *T. nigrocinereus nigrocinereus* Scl.

Thamnophilus nigrocinereus Sclater, *Proc. Zool. Soc. Lond.* xxiii. 1855. p. 19. pl. lxxxi (1855.—Pará) ; Sclater & Salvin, *P. Z. S.* 1867. p. 575 (Rio Tocantins, Mexiana) ; Sclater, *Cat. Birds Brit. Mus.* xv. p. 194 (Lower Amazons) ; Hagmann, *Zoolog. Jahrb., Abt. Syst., etc.* xxvi. 1907. p. 33 (Mexiana) ; Snethlage, *Journ. f. Orn.* 1907. p. 283 (Mexiana, Marajó, Pará).

T. cinereoniger (errore ! nec Pelz.) Snethlage, *Journ. f. Orn.* 1907. p. 283 (Marajó, Monte Alegre).

Hab. N.E. Brazil : Pará (Snethlage, etc.), Rio Tocantins (Wallace), Mexiana (Wallace, Hagmann), Marajó (Snethlage), Monte Alegre (Snethlage).

♂ ad. Pileum, mantle, sides of head, throat, and foreneck sooty black, the pileum somewhat glossy ; feathers of upper back largely white at base, some of them with slaty margins ; lower back and rump slate-grey, abruptly contrasted with black of mantle ; upper tail-coverts black with narrow white apical edges ; upper wing-coverts black, each feather with a distinct white apical margin. Remiges and rectrices black, narrowly edged with white, the former exteriorly, the latter at the tip. Breast, abdomen, and under tail-coverts clear slate-grey.

Wing 78—82 ; tail 58—62 mm.

♀ ad. Pileum dull sooty blackish, most of the feathers indistinctly edged with slate-grey ; back pale rufescent olive-brown ; feathers of upper back extensively white at base ; wing-coverts dusky with cinnamon-brown margins ; remiges and rectrices dusky, slightly edged with rufescent brown, the outer tail-feathers

sometimes with a narrow, rusty buff apical margin. Lores, cheeks, and ear-coverts dull dark slate-grey. Lower parts clear ferruginous, throat palest, foreneck and breast darkest, flanks tinged with brownish.

Wing 77—80 ; tail 60—64 mm.

Obs. Miss Snethlage (*l.c.* pp. 283-4) records both *T. nigrocinereus* and *T. cinereoniger* from Marajó (S. Natal) and Monte Alegre, under the erroneous supposition that the specimens without the white mark on the outer web of the external rectrix represent the former "species." At my request, the learned lady sent me some of these examples. I found that the presence or absence of the white spot was a purely individual character, and that all skins from Lower Amazonia (except those obtained on the Tapajóz) were unquestionably referable to *nigrocinereus*, having the head all round, foreneck and mantle black, etc.

(*b*) *T. nigrocinereus huberi* Snethlage.

Thamnophilus huberi Snethlage, *Orn. Monber.* xv. p. 161 (1907.—Ilha de Goyana, Rio Tapajóz) ; eadem, *Journ. f. Orn.* 1908. p. 509 (Goyana).
T. cinereoniger (nec Pelzeln) Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 76 (part. : Tapajóz).
T. nigrocinereus (nec Sclater) Chapman & Riker, *Auk* 1891. p. 28 (Santarem).

Hab. Lower Amazonia, Rio Tapajóz : Santarem (Natterer, Smith), Ilha de Goyana (Snethlage).

♂ ad. Agrees with the preceding form in having the top and sides of the head as well as the mantle black, the latter conspicuously contrasted with the slate-grey of the rump, but the throat is slate-grey like the rest of the under surface, and the under tail-coverts are broadly tipped with white.

Type : wing 82 ; tail 67 mm.

♀ ad. Differs from *T. n. nigrocinereus* by its darker, deep sooty black, slightly glossy pileum, deeper grey sides of the head, and by having the edges to the upper wing-coverts, remiges, and rectrices much darker rufous brown.

Wing 78½—80 ; tail 62—64 mm.

Obs. The female type of *T. huberi* is considerably darker cinnamon-rufous below than either *T. n. nigrocinereus* or *T. n. cinereoniger*, but a second specimen from the Tapajóz (coll. Natterer) does not differ in that respect from its allies. Otherwise it is practically identical with the Goyana female. I am greatly indebted to Miss Snethlage for the loan of the typical examples.

(*c*) *T. nigrocinereus cinereoniger* Pelz.

Thamnophilus cinereoniger Pelzeln, *Zur Orn. Bras.* ii. pp. 76, 143 (1868.—near Airão, Marabitanas, Rio Vaupé, R. Amajaú : Rio Negro) ; Berlepsch & Hartert, *Nov. Zool.* ix. 1902. p. 69 (Munduapo, Maipures, Altagracia : Upper Orinoco, Venezuela).

Hab. N.W. Brazil, Rio Negro district : Airão, Marabitanas, Rio Vaupé, Rio Amajaú (Natterer). Venezuela, Upper Orinoco : Munduapo, Maipures, Altagracia (Cherrie).

♂ ad. Differs from the preceding races by having the cap decidedly duller blackish ; the mantle mainly sooty grey, clouded with dusky ; the sides of the head dark grey (not blackish) ; the lower parts of a clearer slate-grey. Under tail-coverts tipped with white as in *T. n. huberi*.

Wing 78—81 ; tail 60—64 mm.

♀ ad. Agrees with *T. n. nigrocinereus* in the colour of the top and sides

of the head, but the back is darker rufescent brown, and wings and tail are more like *T. n. huberi*, though the coloration of these parts is rather variable.

Wing 75—80 ; tail 58—63 mm.

Obs. Specimens from the Orinoco (fourteen examined) agree perfectly with the typical series in the Vienna Museum.

(*d*) *T. nigrocinereus tschudii* Pelz.

Thamnophilus tschudii Pelzeln, *l.c.* pp. 76, 141 (1868.—Borba, Rio Madeira) ; Sclater, *Cat. Birds Brit. Mus.* xv. p. 191 (Borba ; Iquitos, N. Peru).

Hab. North Brazil : Borba, Rio Madeira (Natterer). North Peru : Iquitos (H. Whitely), Nauta (Hauxwell).

♂ ad. Differs from all the preceding races by having the whole back from the forehead to the rump uniform black. White dorsal patch, wings and tail as in its allies. The coloration of the under parts is rather variable, as shown by a series from Borba in the Vienna Museum. Two have the throat only black, the rest of the belly slate-grey, exactly as in *T. n. nigrocinereus*, though the abdomen is slightly darker ; in two others throat and foreneck are black, breast and abdomen sooty blackish, while the fifth specimen has all the lower surface uniform deep black.

Wing 79—82 ; tail 62—65 mm.

♀ ad. Cap deep sooty black as in *T. n. huberi*, but the sides of the head **and the throat** are sooty blackish, the breast and abdomen dark rufous brown, wings and tail considerably darker, and the back is chestnut-brown.

Wing 75—77 ; tail 59—60 mm.

Obs. An adult male from Nauta (Hauxwell coll., September 9, 1880 ; Mus. H. v. Berlepsch) agrees well with those from Borba.]

[202. **Thamnophilus aethiops polionotus** Pelz.

Cf. *Nov. Zool.* xiv. 1907. p. 369 (Humaytha).

Left bank of the Rio Madeira : Humaytha (Hoffmanns).]

203. **Thamnophilus aethiops punctuliger** Pelz.

[*Thamnophilus aethiops* Sclater, *Proc. Zool. Soc. Lond.* xxvi. 1858. p. 65 (1858.—Rio Napo, Eastern Ecuador).]

T. punctuliger Pelzeln, *Zur Orn. Bras.* ii. p. 146 (1868.—Borba, Rio Madeira).

No. 346. ♂ ad., Calama, 7. viii. 1907.—Wing 76 ; tail 61 ; bill 19 mm.

Nos. 106, 289, 333, 455. ♀ ♀, Calama, 25. vi., 29. vii., 5, 26. viii. 1907.—Wing 72—76 ; tail 56—61 ; bill 18—19 mm.

No. 792. ♀ ad., Allianca, 19. xi. 1907.—Wing 75 ; tail 58 ; bill 19 mm.

No. 964. ♀ ad., Maruins, 30. vi. 1908.—Wing 73½ ; tail 59 ; bill 18 mm.

The adult male is identical with Pelzeln's type in the Vienna Museum. Both have a distinct, concealed, white interscapular patch, and the lesser and median upper wing-coverts conspicuously tipped with white, while those of the greater series are either uniform dusky or show but slight traces of apical spots.

The females, the first on record, are very similar to those of *T. a. polionotus*, but the sides of the head as well as the throat are rather lighter ferruginous, and the belly is somewhat paler. Some come very near *T. a. incertus*, while the one from Maruins, the darkest of all, is scarcely distinguishable from *polionotus*.

T. aethiops, *T. juruanus*, *T. polionotus*, *T. punctuliger*, and *T. incertus* are

evidently geographical races of the same "Formenkreis." The males differ from each other only in intensity of coloration and in the amount of white spotting, and the females are even less different.

Their ranges and characters may be summarized as follows :—

(*a*) *T. aethiops aethiops* Scl.

Thamnophilus aethiops Sclater, *P. Z. S. Lond.* xxvi. p. 65 (1858.—Rio Napo, Eastern Ecuador) ; *l.c.* p. 457 (Zamora) ; *Cat. Birds Brit. Mus.* xv. p. 190 (Eastern Ecuador) ; Salvadori & Festa, *Boll. Mus. Torino* xiv. No. 362. 1899. p. 27 (Zamora) ; Goodfellow, *Ibis* 1902. p. 64 (Coca, Rio Napo).

Hab. Eastern Ecuador : Coca, Upper Napo (Goodfellow), Sarayaçu (Buckley), Zamora (Fraser, Festa).

♂ ad. Deep black with slight gloss ; bend and edge of the wing and under wing-coverts speckled with white.

Wing 74 ; tail 60 mm.

♀ ad. Upper parts deep chestnut-brown ; rectrices blackish edged with deep chestnut. Sides of head like the back, under parts somewhat lighter chestnut. Axillaries orange, quill-lining pale rufous buff.

Wing 74—76 ; tail 60—64 mm.

(*b*) *T. aethiops polionotus* Pelz.

T. polionotus Pelzeln, *Zur Orn. Bras.* ii. p. 147 (1868.—Marabitanas, Barcellos, Rio Negro).

T. tristis Sclater & Salvin, *Nomencl. Av. Neotrop.* p. 160 (1873.—Oyapoc, Cayenne) ; Hellmayr, *Nov. Zool.* xiii. 1906. p. 338 (crit.).

T. sp. inc. Berlepsch & Hartert, *Nov. Zool.* ix. 1902. p. 69 (La Pricion, Nicare, Venezuela).

Hab. Venezuela : Nicare, La Pricion, Caura River. French Guiana : Oyapoc. North Brazil : Marabitanas, Barcellos, on the Rio Negro (Natterer), Humaytha, left bank of Madeira (Hoffmanns).

♂ ad. General colour plumbeous, cap blackish ; bend of the wing spotted with white, all the upper wing-coverts with well-defined white apical spots.

Wing 73—76 ; tail 59—61 mm.

♀ ad. General colour paler, more rufous brown than in *T. a. aethiops*, and tail also rufous brown (instead of blackish).

Wing 72—75 ; tail 58—64 mm.

Obs. For synonymy cf. *Nov. Zool.* xiii. pp. 338-9. The male from Humaytha is slightly paler plumbeous than those from Marabitanas, Oyapoc, and Caura, but does not otherwise differ.

(*c*) *T. aethiops juruanus* Ihering.

Thamnophilus juruanus Ihering, *Rev. Mus. Paul.* vi. 1904. p. 439. pl. xvi. fig. 1 (1905.—Rio Juruá) ; Snethlage, *Journ. f. Orn.* 1908. p. 15 (Monte Verde, Rio Purús).

Hab. West Brazil : Rio Juruá (Garbe) ; Monte Verde, on the River Purús (Snethlage).

♂ ad. Exactly like the preceding form, but median and greater wing-coverts uniform blackish (not tipped with white), and general coloration rather clearer plumbeous.

Wing 75—79 ; tail 61—63 mm.

♀. Unknown.

Obs. T. a. juruanus has, like *T. a. polionotus*, the cap blackish, small white

spots on the lesser wing-coverts, and the bend of the wing speckled with white. In addition to the two typical specimens, I have examined an adult male obtained on the Rio Purús and belonging to the Musen Goeldi, Pará.

(*d*) *T. aethiops punctuliger* Pelz.

Thamnophilus punctuliger Pelzeln, *Zur Orn. Bras.* ii. p. 146 (1868.—Borba); Hellmayr, *Nov. Zool.* xiii. 1906. p. 339 (crit.); Snethlage, *Journ. f. Orn.* 1908. p. 509 (Villa Braga).

Hab. North Brazil: Borba (Natterer), Calama, Allianca, Maruins (Hoffmanns), right bank of the Rio Madeira; Villa Braga, left bank of the R. Tapajóz (Snethlage).

♂ ad. Agrees with *T. a. juruanus* in the clear plumbeous general coloration and blackish cap, but the median (as well as lesser) wing-coverts have white apical spots, and there is a distinct white interscapular patch.

Wing 76, 77; tail 60, 61 mm.

♀ ad. Very similar to *T. a. polionotus*, but averaging lighter.

Wing 72—76; tail 56—61 (see above).

(*e*) *T. aethiops incertus* Pelz.

Thamnophilus incertus Pelzeln, *Zur Orn. Bras.* ii. p. 149 (1868.—Pará), descr. orig. ♀; Hellmayr, *Nov. Zool.* xiii. 1906. p. 367 (Prata, Pará).

Dysithamnus incertus Hellmayr, *Nov. Zool.* xii. 1905. p. 284 (crit.; Igarapé-Assú, Pará).

Thamnophilus simplex Sclater, *Ibis* 1873. p. 387. pl. 15, descr. orig. ♂ ♀ (Pará); Sclater & Salvin, *P. Z. S. Lond.* 1878. p. 139 (Vigia, Pará); Snethlage, *Journ. f. Orn.* 1907. p. 283 (Pará, S. Antonio do Prata, Resacca [Rio Capim], Sta. Maria de S. Miquel [Rio Guamá]).

T. polionotus ? Snethlage, *Journ. f. Orn.* 1907. p. 284 (Pará, Rio Capim).

Hab. N.E. Brazil, Pará District: Pará (Layard, Natterer, etc.), Vigia (Steere), S. Antonio do Prata = Igarapé-Assú (Robert, Hoffmanns, Snethlage), Resacca, on the R. Capim (Snethlage), Sta. Maria de S. Miquel, on the Rio Guamá (Snethlage).

♂ ad. Differs from the preceding races by its lighter, slate-grey coloration, and by lacking the blackish cap and the white apical spots to the upper wing-coverts, only the bend of the wing being freckled with white. Wings and tail are shorter.

Wing 68—73; tail 55—60 mm.

♀ ad. Differs from *T. a. polionotus* and *T. a. punctuliger* by having the back paler rufous brown, the sides of the head and throat clearer ferruginous, and the belly of a paler tint, varying from ochraceous to fulvous.

Wing 66—71; tail 55—61 mm.

Obs. I have examined the two females named *T. polionotus ?* by Miss Snethlage and found them identical with Pelzeln's type.

204. **Thamnophilus amazonicus** Scl.

Thamnophilus amazonicus Sclater, *Proc. Zool. Soc. Lond.* xxvi. 1858. p. 214. pl. 139. figs. 1, 2 (1858.—"Upper Amazons"); Pelzeln, *l.c.* p. 77 (Borba, Salto do Girao, Rio Madeira; Engenho do Gama, Rio Guaporé); Hellmayr, *Nov. Zool.* xiv. p. 370 (Borba).

No. 656. ♂ ad., S. Isabel, Rio Preto, 9. x. 1907.—Wing 72; tail 62; bill $17\frac{3}{4}$ mm.

No. 620. ♀ ad., S. Isabel, 4. x. 1907.—Wing 68; tail 58 mm.

Nos. 244, 513. ♀ ♀ ad., Calama, 19. vii., 5. ix. 1907.—Wing 69; tail 59, $56\frac{1}{2}$; bill $16\frac{1}{2}$, 17 mm.

No. 911. ♀ ad., Maruins, 7. vi. 1908.—Wing 68; tail 57½; bill 17½ mm.

"Iris brown, feet plumbeous, bill black."

Agreeing well with examples from Pará and Maranhão. *T. amazonicus* and *T. cinereiceps* Pelz.,* from the Upper Orinoco and Rio Negro, are so very nearly allied (the females differ merely in size) that one would naturally expect them to be geographical representatives, but both are said to occur in French Guiana.† All the examples I have examined from this country were, however, clearly referable to *T. amazonicus*, and the record of *T. cinereiceps* appears to be open to doubt.

205. **Thamnophilus doliatus subradiatus** Berl.

[*Lanius doliatus* Linnaeus, *Mus. Adolphi Frid. II. Prodrom.* p. 12 (1764.—loc. ign.; we substitute *Surinam*).]

Thamnophilus subradiatus Berlepsch, *Journ. f. Orn.* 1887. p. 17 (Upper Amazonia: the type in Mus. H. v. B. is from Iquitos, N.E. Peru).

T. doliatus subradiatus Hellmayr, *Nov. Zool.* xiv. 1907. p. 370 (Humaytha).

No. 430. ♂ ad., Calama, 19. viii. 1907.—Wing 74; tail 65; bill 19 mm.

No. 820. ♂ juv., Marmellos, 17. xii. 1907.

Nos. 621, 670. ♀ ♀ ad., S. Isabel, Rio Preto, 4, 16. x. 1907.—Wing 71, 74; tail 58, 60; bill 18½, 19 mm.

"Iris yellowish white or pale yellow, feet light plumbeous, bill black (♂), dark grey (♀)."

This form ranges from Northern Peru through Western Brazil to the Rio Madeira, where it is found on both sides.

206. **Dysithamnus schistaceus schistaceus** (D'Orb.).

Thamnophilus schistaceus D'Orbigny, *Voyage, Oiseaux* p. 170 (1838.—Yuracarès, Bolivia); Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 77 (Salto do Girao, Borba).

Dysithamnus s. schistaceus Hellmayr, *Nov. Zool.* xiv. 1907. p. 370 (Humaytha, Borba).

D. capitalis (nec Sclater) Snethlage, *Journ. f. Orn.* 1908. p. 510 (Villa Braga, Tapajóz—♀, examined by me).

Nos. 22, 41, 52, 199. ♂ ♂ ad., Calama, 11, 14, 16. vi., 10. vii. 1907.—Wing 62—65; tail 51—54; bill 16—17 mm.

No. 353. ♂ imm., Calama, 8. viii. 1907.—Wing 63; tail 55; bill 17 mm.

Nos. 634, 714. ♂ ♂ ad., S. Isabel, Rio Preto, 7, 17. x. 1907.—Wing 65, 62; tail 54, 50; bill 17 mm.

No. 871. ♂ ad., Marmellos, 26. xii. 1907.—Wing 63; tail 50; bill 17 mm.

No. 633. ♀ ad., S. Isabel, 7. x. 1907.—Wing 64; tail 54; bill 16½ mm.

No. 1053. ♀ ad., Maruins, Machados, 22. vii. 1908.—Wing 65; tail 55; bill 17 mm.

"Iris red, feet plumbeous, bill black, below grey."

The series agrees with specimens from the Rio Purús and Tapajóz. Some of the adult males are uniform cinereous below, others have the middle of the belly variegated with whitish. In most of them the pileum is uniform slate-grey; but two specimens (Nos. 22, 52) approach the newly described *D. capitalis squamosus* Snethl.,‡ from the left bank of the Tocantins, in having the feathers of the cap distinctly centred with black, though to a lesser degree than in the type kindly lent by Miss Snethlage. This form is, of course, more nearly related to *D. s. schistaceus*

* *Zur Orn. Bras.* ii. p. 145 (1868.—Marabitanas and Rio Uaupé, Rio Negro).

† Cf. *Cat. Birds Brit. Mus.* xv. pp. 199, 201.

‡ *Ornith. Monatster.* xv. Oct. 1907. p. 162 (Alcobaça, left bank of Tocantins).

than to *D. s. capitalis*, and should be called *D. schistaceus squamosus* Snethl. if really distinct. The female is not distinguishable from *schistaceus*. See also *Nov. Zool.* xiv. 1907. pp. 61–3, where a review of these birds is given.

A nest containing two eggs was taken at S. Isabel, together with the parent bird (No. 633), on October 7, 1907. It is a small, loose structure of dry leaves, roots, and stems of various plants, without a particularly soft lining, fastened on a forked branch like an oriole's nest (*Oriolus galbula*). The eggs, which resemble those of the Red-backed Shrike (*Lanius collurio*), are creamy white, mottled and blotched with chocolate and underlying pale lavender, the chocolate markings being crowded around the thicker end. The eggs measure 21 × 15, 20 × 15½ mm.

[207. **Dysithamnus murinus** (Scl. & Salv.).

Thamnophilus murinus (Natterer MS.) Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1867. p. 756 (1867.—Cayenne ; Marabitanas and Barra do Rio Negro ; Xeberos.—We accept *Barra do Rio Negro* as typical locality).

Dysithamnus murinus Hellmayr, *Nov. Zool.* xiv. p. 371 (Humaytha).

Left bank : Humaytha (Hoffmanns).]

208. **Dysithamnus ardesiacus saturninus** (Pelz.).

[*Dysithamnus ardesiacus* Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1867. p. 756 (1867.—based on *T. schistaceus* (nec D'Orbigny) Sclater, *P. Z. S.* 1858. pp. 66, 222.—Rio Napo, Eastern Ecuador).]

Thamnophilus saturninus Pelzeln, *Zur Orn. Bras.* ii. p. 147 (1868.—*Borba* fixed as typ. habitat ; cf. Hellmayr, *Verhandl. Zool. Bot. Ges. Wien* liii. 1903. p. 216).

D. a. saturninus Hellmayr, *Nov. Zool.* xiv. p. 371 (Borba).

Nos. 51, 370. ♂♂ vix ad., Calama, 16. vi., 11. viii. 1907.—Wing 72, 76 ; tail 57, 59 ; bill 17, 18 mm.

No. 984. ♂ vix ad., Maruins, 9. vii. 1908.—Wing 73 ; tail 55 ; bill 17 mm.

No. 786. ♂ juv., Allianca, 14. xi. 1907.—Wing 74 ; tail 58 ; bill 17½ mm.

Nos. 279, 356. ♀♀, Calama, 27. vii., 8. viii. 1907.—Wing 77, 79 ; tail 57, 63 ; bill 19 mm.

" Iris brown or grey, feet plumbeous (black), bill black."

The males have the throat and middle of the foreneck deep black. The outer rectrices are conspicuously edged with white at the tip. Some have scarcely more white at the base of the interscapular feathers than examples from British Guiana, Venezuela, etc., but average slightly larger with longer tail. Cf. my remarks in *Nov. Zool.* xiv. p. 371, and in *Verhandl. Zool. Bot. Gesellsch. Wien* liii. 1903. pp. 216–7.

209. **Thamnomanes caesius persimilis** Hellm.

[*Muscicapa caesia* Temminck, *Rec. Pl. col.* livr. 3. tab. 17. figs. 1, 2 (October 1820.—South-East Brazil ; cf. *Nov. Zool.* xii. p. 285).]

Thamnomanes caesius persimilis Hellmayr, *Nov. Zool.* xiv. p. 64 (1907.—Teffé, Rio Solimões) ; idem, *l.c.* p. 371 (Humaytha).

T. caesius (nec Temminck), Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 80 (Salto do Girão) ; Ihering, *Revist. Mus. Paulist.* vi. 1905. p. 440 (Rio Juruá).

T. caesius glaucus (nec Cabanis) Hellmayr, *Nov. Zool.* xiv. 1907. p. 17 (Itaituba, Rio Tapajóz—♀, examined by me).

T. caesius hoffmannsi (nec Hellmayr) Snethlage, *Journ. f. Ornith.* 1908. p. 510 (Bella Vista, Villa Braga : Rio Tapajóz) ; eadem, *l.c.* p. 531 (Arumatheua, R. Tocantins).

Nos. 193, 361. ♂♂ ad., Calama, 8. vii., 9. viii. 1907. " Iris brown or greyish brown, feet and bill black."—Wing 74, 71 ; tail 64, 65 ; bill 16½, 17 mm.

No. 1071. ♀ ad., Calama, 10. ix. 1908. "Iris brown."—Wing 72; tail 63; bill 17 mm.

No. 1049. ♂ ad., Maruins, Machados, 22. vii. 1908. "Iris brown."—Wing 70; tail 61; bill 16 mm.

The males agree in every way with those from Teffé and Humaytha. All have the under wing-coverts and the quill-lining broadly white; in none is there any white at the base of the interscapular feathers. The female differs slightly from Venezuelan specimens of *T. c. glaucus* by having the throat rather browner and mixed with deep buff, and the under mandible brown instead of whitish. Breast and abdomen, too, are a shade deeper ferruginous. Like *T. c. glaucus*, it has a large concealed white dorsal patch.

I have examined the specimens from Salto do Girao (Mus. Vindob.) and Rio Juruá (Mus. Paulista)—in both cases males only were obtained—and found them to belong to *persimilis*. Miss Snethlage informs me (*in litt.*) that the bird recorded s.n. *T. c. hoffmannsi* (*vide supra*) likewise turns out to be *persimilis*.

The range of *T. c. persimilis* is therefore as follows:

North Brazil: Teffé, Rio Solimões (Hoffmanns); Rio Madeira: Salto do Girao (Natterer), Humaytha, Calama, Maruins, Rio Machados (Hoffmanns); Rio Juruá (Garbe); R. Tapajóz, left bank: Itaitúba (Hoffmanns), Villa Braga (Snethlage); right bank: Bella Vista (Snethlage); Arumatheua, left bank of the R. Tocantins (Snethlage).*

210. **Pygiptila margaritata** (Scl.).

Myrmeciza margaritata Sclater, *Proc. Zool. Soc. Lond.* xxii. 1854. p. 253. pl. lxxi. (April 1855.—Chamicuros, Eastern Peru).

Nos. 96, 248, 328. ♂♂ ad., ♂ vix ad., Calama, 23. vi., 22. vii., 2. viii. 1907.—Wing 73, 70; tail 48, 49; bill 16—17½ mm. "Iris dirty white, feet light plumbeous, bill black, below greyish blue."

Nos. 97, 345, 362, 368. ♀♀, Calama, 23. vi., 7, 10, 11. viii. 1907.—Wing 67—69; tail 45—47; bill 16¾—17⅓ mm. "Iris dirty white, feet light plumbeous, bill black, below grey."

The specimens differ from topotypical Peruvian examples by their rather shorter, broader bill. The males have, too, the under wing-coverts uniform dark grey, not mixed with white, and the females are decidedly paler rufescent brown on the back. These trifling differences are, however, not likely to be constant.

P. margaritata is for the first time recorded from the Madeira district. Previously it was only known from Eastern Peru, where Bartlett and Hauxwell had obtained specimens at Xeberos and Chamicuros, and from Marabitanas, on the upper Rio Negro, whence Natterer sent a series to the Vienna Museum.

211. **Pygiptila stellaris** (Spix).

Thamnophilus stellaris Spix, *Av. Bras.* ii. p. 27. pl. xxxvi. fig. 2, descr. orig. ♂ (1825.—Pará).
T. maculipennis Sclater, *Edin. New Philos. Journ.* (new ser.) i. p. 247 (1855.—"Quixos in Cisandean Ecuador and Peruvian Amazons").
Pygiptila maculipennis Pelzeln, *Zur Orn. Bras.* ii. p. 79 (Salto do Girao, Borba).

Nos. 359, 372. ♂♂ vix ad., Calama, 9, 11. viii. 1907.—Wing 79, 76; tail 39½, 41; bill 18½, 21 mm.

Nos. 93, 213, 360, 371, 419. ♀♀ ad. et imm., Calama, 22. vi., 12. vii., 9, 11, 18. viii. 1907.—Wing 74—76; tail 38—40; bill 19—20½ mm.

* Specimens from the Upper Purús are, however, referable to a new form, related to *T. c. glaucus* Cab.

Identical with Peruvian and Venezuelan (Caura) specimens.

P. stellaris ranges all over the great Amazonian forest region, from Surinam, Cayenne, and Pará to the eastern slopes of the Andes in Ecuador and Peru. Notwithstanding this wide area I cannot make out any local races.

212. **Myrmotherula pygmaea** (Gm.).

Muscicapa pygmaea Gmelin, *Syst. Nat.* 1. ii. p. 933 (1789.—ex D'Aubenton, Pl. enl. 831. fig. 2 : Cayenne).

Myrmotherula pygmaea Pelzeln, *l.c.* p. 80 (Guajaraguaçu, Rio Mamoré) ; Hellmayr, *Nov. Zool.* xiv. p. 382 (Borba, Humaytha).

No. 844. ♂ imm., Marmellos, 21. vii. 1907.—Wing 42 ; tail 19 ; bill 13 mm.

Nos. 77, 293. ♀ ad., (♂) imm., Calama, 19. vi., 29. vii. 1907.—Wing 40, 44 ; tail 18, 21 ; bill 13, 15 mm.

" Iris brown, feet light green or pale plumbeous, bill black, below grey."

Within Brazilian limits *M. pygmaea* does not seem to have been met with east of the Madeira basin, although, in the north of the South American continent, it ranges as far as French Guiana. The Munich Museum possesses a large series from Cayenne, Venezuela (Caura Valley), Eastern Ecuador (Napo), and Bogotá.

213. **Myrmotherula surinamensis multostriata** Scl.

[*Sitta surinamensis* Gmelin, *Syst. Nat.* 1. i. p. 442 (1788.—based on " Surinam Nuthatch," Latham, *Gen. Syn. Birds* 1. ii. p. 654. pl. 28 (= ♀) : Surinam).]

Myrmotherula multostriata Sclater, *Proc. Zool. Soc. Lond.* xxvi. 1858. p. 234. pl. cxli. figs. 2 (♂), 3 (♀) (1858.—Ucayali, East Peru).

M. surinamensis multostriata Hellmayr, *Nov. Zool.* xiv. p. 382 (Humaytha).

No. 165. ♂ ad., Calama, 5. vii. 1907.—Wing 51 ; tail 26 ; bill 13 mm.

No. 847. ♂ ad., Marmellos, 22. xii. 1907.—Wing 48 ; tail 24 ; bill 13 mm.

No. 838. ♂ imm., Marmellos, 21. xii. 1907.—Wing 48 ; tail 27 ; bill 13 mm.

No. 164. ♀ ad., Calama, 4. vii. 1907.—Wing 49 ; tail 23 ; bill 13 mm.

No. 532. ♀ ad., Jamarysinho, Rio Machados, 10. ix. 1907.—Wing 49 ; tail 24 ; bill 13½ mm.

No. 837. ♀ ad., Marmellos, 21. xii. 1907.—Wing 48 ; tail 25 ; bill (damaged) — mm.

" Iris brown, feet plumbeous, bill black, below grey."

This series is typical of *multostriata*. The females have the sides of the head paler or deeper buff with dusky streaks (not uniform clear cinnamon-rufous as in *surinamensis*), the under parts marked with very distinct, though narrow, blackish shaft-stripes on a creamy white ground, and the foreneck as well as the breast washed with buff. The middle of the abdomen alone is creamy white, without streaks. Two of the females have the whole pileum, almost to the base of the bill, striped with black, while in that from Calama the anterior portion is uniform ferruginous as in *surinamensis*, but of a lighter hue. Birds from Pará and the Rio Tapajóz, for which I am indebted to Miss Snethlage, are likewise referable to *multostriata*.

The synonymy and range of *M. s. multostriata* are as follows :—

Myrmotherula multostriata Sclater, *Proc. Zool. Soc. Lond.* 1858. p. 234. pl. cxli. figs, 2, 3 (Ucayali, East Peru) ; Sclater & Salvin, *l.c.* 1866. p. 185 (Upper Ucayali) ; iidem, *l.c.* 1873. p. 274 (Upper Ucayali, Santa Cruz, Eastern Peru) ; Sclater, *Cat. Amer. Birds* 1862. p. 179 (Upper Amazon—Bates, erroneously registered as type).

M. surinamensis (errore !) Ihering, *Revist. Mus. Paul.* vi. 1904. p. 440 (1905.—Rio Juruá) ; Hellmayr, *Nov. Zool.* xiii. 1906. p. 368 (Prata, Pará) ; Snethlage, *Journ. f. Ornith.* 1907. p. 284 (Pará, Ourèm ; biol.) ; Sclater, *Cat. Birds Brit. Mus.* xv. 1890. p. 231 (part. : specimens *w*—*z*, b^1—d^1).

M. s. multostriata Ménégaux & Hellmayr, *Bull. Soc. Philomat. Paris* 1906. p. 48 (Pebas, Nauta, North Peru ; crit.) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 68 (Teffé) ; *l.c.* p. 382 (Humaytha) ; Snethlage, *Journ. f. Ornith.* 1908. p. 510 (Isle of Goyana, Rio Tapajóz) ; eadem, *l.c.* p. 531 (Arumatheua, Rio Tocantins).

Hab. Eastern Peru : Ucayali, Santa Cruz (Bartlett), Pebas, Nauta (Castelnau & Deville), Samiria (Hauxwell). Brazilian Amazonia : Teffé, Rio Solimoëns (Hoffmanns) ; Rio Juruá (Garbe) ; Humaytha, Marmellos, left bank, Calama, Jamarysinho, right bank of the Rio Madeira (Hoffmanns) ; Isle of Goyana, Rio Tapajóz (Snethlage) ; Arumatheua, Rio Tocantins (Snethlage). District of Pará : Prata (Hoffmanns), Pará, Ourèm on the Rio Guamá (Snethlage).

Examined.—British Museum : (1) ♂ ad. (specimen "*w*" of Sclater's list), Santa Cruz (Bartlett) ; (2) ♂ ad. (*x*), Ucayali, *type* of *M. multostriata* (Hauxwell) ; (3) ♂ ad. (*z*), Upper Ucayali (Bartlett) ; (4) ♀ (*y*), Ucayali (Hauxwell), *type* of *M. multostriata* ; (5, 6) ♀ ♀ (b^1, c^1), Upper Ucayali (Bartlett) ; (7) ♀ (d^1), Upper Amazon (Bates). Tring Museum : (8) ♀ ad., Samiria (Hauxwell) ; (9) ♂ ad., Prata, Pará (Hoffmanns) ; (10) ♂ ad., Humaytha ; (11) ♀ ad., Teffé (Hoffmanns) ; (12—17), the above series from the Rio Madeira. Paris Museum : (18—22) ♂ ♂ ad., ♀ ♀ ♀, Pebas, Nauta (Castelnau & Deville). Munich Museum : (23, 24) ♂ ♀ ad., Isle of Goyana, Tapajóz (Snethlage).

M. s. multostriata is, of course, quite distinct from *M. longicauda* Berl. & Stolzm.,* the latter being a near ally of *M. cherriei* Berl. & Hart.†

214. **Myrmotherula hauxwelli hauxwelli** (Scl.).

Formicivora hauxwelli Sclater, *Proc. Zool. Soc. Lond.* xxv. 1857. p. 131. tab. 126. fig. 2 (1857.—Eastern Peru).

Myrmotherula Hauxwelli Pelzeln, *l.c.* p. 81 (Engenho do Cap. Gama, Salto do Girao).

M. hauxwelli hauxwelli Hellmayr, *Nov. Zool.* xiv. 1907. p. 383 (Humaytha).

Nos. 120, 336. ♂ ♂ ad., Calama, 28. vi., 5. viii. 1907.—Wing 53, 51 ; tail 26, 23 mm.

No. 832. ♂ ad., Marmellos, 19. xii. 1907.—Wing 53 ; tail 23 mm.

Nos. 1008, 1024, 1028. ♂ ♂ ad., ♂ vix ad., Maruins, R. Machados, 12, 16, 17. vii. 1908.—Wing 51—52 ; tail 23—24 mm.

No. 197. ♀ ad., Calama, 10. vii. 1907.—Wing 50 ; tail 24 mm.

Nos. 945, 950. ♀ ♀ ad., Maruins, R. Machados, 26, 28. vi. 1908.—Wing 50 51 ; tail 22, 23 mm.

"Iris brown, feet plumbeous or blackish, bill black, below grey."

All have a distinct white dorsal patch, agreeing in this as well as in other respects with examples from Eastern Ecuador.

215. **Myrmotherula leucophthalma leucophthalma** (Pelz.).

Formicivora leucophthalma Pelzeln, *Zur Orn. Bras.* ii. pp. 83, 155 (1868.—Salto do Girao, Rio Madeira) ; Hellmayr, *Verhandl. Zool. Bot. Gesellsch. Wien* liii. 1903. p. 213 (crit.).

[Mus. Vindob., No. 15308. ♀ imm., Salto do Girao, October 8, 1829 (Natterer coll.). *Type of species.*—Wing 52 ; tail 43½ ; bill 14½ mm.]

* *Ibis* 1894 p. 394 (Central Peru).

† *Nov. Zool.* ix. p. 72 (1902.—Perico, Orinoco River).

No. 947. ♀ ad., Maruins, Rio Machados, 27. vi. 1908. "Iris yellow, feet grey, bill black."—Wing 54 ; tail 45 ; bill 14 mm.

The type is an immature bird, while the specimen sent by Mr. Hoffmanns is perfectly adult. It differs from the former in having the upper parts duller and less rufescent brown ; the upper tail-coverts brown like the back (instead of cinnamon-rufous) ; the tail duller, rufescent brown, less cinnamon ; the edges to the remiges more olive-brown, less reddish ; and the belly decidedly paler ochraceous. Moreover, the median and greater wing-coverts are deeper black, with the large apical spots better defined, as well as of a clearer ochraceous buff. These trifling differences are, no doubt, due to age.

As pointed out by me (*l.c.*), *M. leucophthalma* is very nearly related to *M. sororia* Berl. & Stolzm.,* so closely indeed that the latter will have to be considered as only subspecifically distinct. The females of both forms agree in having the median and greater wing-coverts black with large rounded spots of ochraceous buff, while, in the allied *M. gutturalis* Scl. & Salv.,† from British Guiana and Cayenne, they are light russet-brown with minute apical dots of buff. However, *M. leucophthalma* may be distinguished from *M. sororia* by the deeper colour of the under parts, deeper ochraceous buff apical spots to the wing-coverts, and by its rufescent brown or cinnamomeous (instead of dark brown) tail.

An adult male from Bom Lugar, Rio Purús, ‡ with the throat black spotted with white, differs in the same way—viz. decidedly rufescent brown tail—from a male of *M. sororia* (Mus. H. v. Berlepsch ; Rio Tigré, N.E. Peru, J. Haxwell coll.). Besides, the back is conspicuously lighter brown, the outer aspect of the wings less rufescent, and the cinereous of the breast paler. In both skins the apical spots to the wing-coverts are buff, whereas in the male of *M. gutturalis* the much smaller spots are pure white. The Purús bird undoubtedly represents the hitherto unknown male sex of *M. leucophthalma*. I have also examined the ♂ ad. from Marajó mentioned by Miss Snethlage, noticing several small differences, which, however, must be confirmed by additional specimens before attempting any separation.

I think it useful to append a condensed review which may help naturalists in the determination of these difficult birds.

(*a*) *M. leucophthalma leucophthalma* (Pelz.).

Type locality : Salto do Girao, Rio Madeira.

Hab. Brazilian Amazonia : Macujubim, Island of Marajó (Hagmann—♂ in Mus. Paraense) ; Arumatheua, Tocantins (Snethlage) ; Rio Madeira : Salto do Girao (Natterer), Maruins, Rio Machados (Hoffmanns) ; Bom Lugar, Rio Purús (♂ in Mus. Paraense).

♂ ad. Upper parts pale olive-brown, tail light rufescent brown ; lesser upper wing-coverts greyish olive, dusky at base ; median and greater series black with large, rounded apical spots of deep buff ; wings exteriorly edged with rufescent olive-brown. Throat black with large, wedge-shaped white spots ; cheeks, malar region, foreneck, and breast pale cinereous ; lower abdomem, sides, and under tail-coverts pale olive-brown.

* *Ibis* 1894. p. 396 (La Gloria, La Merced, Central Peru).
† *Ibis* 1881. p. 269 (Bartica Grove, British Guiana).
‡ *M. gutturalis leucophthalma* (sic !) Snethlage, *Journ. f. Orn.* 1908. p. 15.

♂ ad., Bom Lugar, Purús, 18. vii. 1903.—Wing 52 ; tail 40 ; bill 14½ mm.

♀ ad. Differs from the male in having the lower parts (including throat) ochraceous, the sides of the head buff, and the apical spots to the wing-coverts deeper, ochraceous buff.

(*b*) *M. leucophthalma sororia* Berl. & Stolzm.

Type locality : La Gloria, Chanchamayo, Central Peru.

Hab. Central Peru : La Gloria, La Merced (Kalinowski). North Peru : Huambo (Stolzmann), Rio Tigré (Hauxwell).

♂ ad. (Mus. H. v. Berlepsch, Rio Tigré, coll. by John Hauxwell). Upper parts dark olive-brown, some of the feathers in the middle of the upper back with rufous brown edges ; tail dusky ; lesser upper wing-coverts blackish with minute whitish apical dots ; median and greater series black with larger, deep buff apical spots, as in *M. l. leucophthalma*. Under parts as in the last-named form, but breast slightly clearer grey.

Wing 50 ; tail 39 ; bill 14 mm.

♀ ad. Like *M. leucophthalma*, but tail dusky with brownish edges ; under parts and apical spots of upper wing-coverts clearer ochraceous ; outer webs of remiges deeper russet-brown ; back darker olive-brown, etc.

Wing 53 ; tail 41 ; bill 15 mm.

(*c*) *M. spodionota* Scl. & Salv., *Proc. Zool. Soc. Lond.* 1880. p. 159.

Type locality : Sarayaçu, Eastern Ecuador.

Hab. Only known from type locality.

♂ vix ad. (*Type of species*, Brit. Museum). Differs from *M. l. leucophthalma* and *M. l. sororia* in having the back, except the olive-brown upper tail-coverts, slate-grey, the large apical spots to the wing-coverts white, and the breast much darker grey. Tail and outer margins of remiges dark rufescent brown as in *M. l. leucophthalma*.

Wing 55 ; tail 37 ; bill 15 mm.

♀. Unknown.

N.B. This imperfectly known form is most probably a geographical race of *M. leucophthalma*.

(*d*) *M. gutturalis* Scl. & Salv.

Type locality : Bartica Grove, British Guiana.

Hab. British Guiana : Bartica Grove, Merume Mts., Rio Atapurow, Camacusa, Quonja (Whitely). Cayenne : Ipousin, Rio Approuague (Cherrie).

Ad. Differs from the preceding species by having the upper wing-coverts light olive-brown with minute white apical dots.

In the males the cinereous colour beneath is restricted to the chest, the rest of the lower parts being pale olive-brown. The throat is black, spotted with white.

Wing 50—52 ; tail 40—44 ; bill 14—15 mm.

As in the allied species, the female has the lower parts uniform ochraceous with the flanks, etc., brownish.

Wing 50—52 ; tail 37—42 mm.

216. **Myrmotherula ornata hoffmannsi** Hellm.

[*Formicivora ornata* Sclater, *Rev. Mag. Zool.* (2) v. p. 480 (1853.—Nova Grenada).]
M. a. hoffmannsi Hellmayr, *Bull. Brit. Orn. Cl.* xvi. p. 84 (April 1906.—Itaitúba, left bank of the Rio Tapajóz) ; *Nov. Zool.* xiv. 1907. p. 22.
M. ornata (not of Sclater) Pelzeln, *Zur Orn. Bras.* ii. p. 81 (Salto Theotonio, Ribeirão, Rio Madeira).

Nos. 79, 379. ♀♀ ad., Calama, 19. vi., 11. viii. 1907.—Wing 51, 53; tail 34, 35 ; bill 14 mm.

" Iris brown, feet plumbeous, bill blackish grey."

These examples agree with the type in all essential points, especially in having the apical spots to the wing-coverts deep buff (pure white in *M. o. ornata*) and the throat deep ochraceous (not black spotted with white), but differ slightly by the rather brighter ochraceous colour of the breast and abdomen. This, however, is not likely to be a constant character. Both specimens have very little ferruginous admixture in the middle of the back, while in the female of *M. o. ornata* the entire back (except pileum and nape) is bright chestnut-rufous. Another difference is to found in the colour of the axillaries and under wing-coverts, which are pure white in *M. o. ornata*, bright buff in *M. o. hoffmannsi*.

Dr. von Lorenz has very kindly sent for my examination the two males obtained on the Rio Madeira by the late Dr. Natterer. They agree well with the type and belong undoubtedly to *M. o. hoffmannsi*. The latter form has recently been met with by Miss Snethlage on the banks of the Tapajóz and Tocantins Rivers.*

217. **Myrmotherula haematonota** (Scl.).

Formicivora haematonota Sclater, *Proc. Zool. Soc. Lond.* xxv. 1857. p. 48 (June 1857.—Chamicuros, Eastern Peru).
Myrmotherula haematonota Pelzeln, *l.c.* p. 81 (Borba) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 384 (Borba, Humaytha).

Nos. 171, 243, 253, 288. ♂♂ ad. and vix ad., Calama, 6, 19, 22, 29. vii. 1907. " Iris yellow or pale brown, feet dark grey or plumbeous, bill black."—Wing 50—53 ; tail 36—42 ; bill 13½—14 mm.

These specimens, adults with the back and rump deep ferruginous, agree perfectly with a series from the Caura Valley, Venezuela. The male obtained near Borba, by Natterer, is immature, having the tips to the upper wing-coverts deep buff, and but a limited space in the middle of the back dark ferruginous.

About the identity of *M. haematonota* and *M. pyrrhonota* cf. my remarks in *Nov. Zool.* xiv. 1907. p. 70.

Miss Snethlage has lately recorded *M. haematonota* from Villa Braga, left bank of the Rio Tapajóz.†

218. **Myrmotherula axillaris axillaris** (Vieill.)

Myrmothera axillaris Vieillot, *Nouv. Dict.* xii. p. 113 (1817.—" la Guyane ").
Myrmotherula axillaris Pelzeln, *l.c.* p. 82 (Borba, Matogrosso, Engenho do Gama, S. Vicente, etc.) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 383 (Humaytha, Borba).

No. 935. ♂ ad., Marnins, Rio Machados, 21. vi. 1908. " Iris dark brown, feet plumbeous, bill black."—Wing 53 ; tail 38 ; bill 13 mm.

Identical with Cayenne examples.

* *Journ. f. Ornith.* 1908. pp. 511, 532.

† *Journ. f. Ornith.* 1908. p. 511.

219. **Myrmotherula longipennis** Pelz. (subsp.?).

Myrmotherula longipennis Pelzeln, *Zur Orn. Bras.* ii. p. 153 (1868.—Marabitanas, Rio Negro); Hellmayr, *Nov. Zool.* xiv. p. 383 (Borba).

No. 1011. ♂ ad., Maruins, Rio Machados, 13. vii. 1908. "Iris black, feet plumbeous, bill black."—Wing 56; tail 29; bill 13 mm.

No. 936. ♀ ad., Maruins, 21. vi. 1908. "Iris dark brown, feet plumbeous, bill black, below greyish."—Wing 57; tail 33; bill 13 mm.

The adult male agrees in coloration with our series from Cayenne, Venezuela (Caura), etc., but has much shorter wings and tail than any other specimen I have seen. Though the cinereous colour of the belly is rather paler than in the majority of Cayenne and Venezuelan skins, one from the Caura Valley matches it exactly. There is no trace of the white quill-lining more or less conspicuous in all other examples examined.

The female also differs from six others (Cayenne, Caura) by its slightly shorter tail, much less distinct dingy whitish quill-lining, and olive-brown (instead of bright russet or cinnamon-brown) edges to the remiges.

An adult male from Borba, obtained by Mr. Hoffmanns on his first expedition in 1906, however, is fully as large as those from more northern localities (wing 63; tail 36 mm.).

A much larger series than at present available is required to make out the geographical races of *M. longipennis*.

[220. **Myrmotherula garbei** Ihering (?).

Cf. Hellmayr, *Nov. Zool.* xiv. p. 383.

Left bank of the Rio Madeira: Humaytha (Hoffmanns).

The same form has been recorded from Villa Braga, left bank of the Tapajóz, by Miss Snethlage.* I am still in doubt as to its proper specific appellation.]

221. **Myrmotherula menetriesii berlepschi** Hellm.

Nos. 72, 922. ♂♂ ad., Calama, 18. vi. 1907, 6. viii. 1908.—Wing 52, 53; tail 28, 29; bill 13½ mm.

No. 208. ♀ ad., Calama, 12. vii. 1907.—Wing 54; tail 29; bill 13 mm.

No. 1041. ♀ ad., Marnins, Rio Machados, 21. vii. 1908.—Wing 53; tail 26; bill 14 mm.

"Iris greyish brown or brown, feet plumbeous, bill black."

The males agree perfectly with the type of *M. berlepschi*, most obligingly lent by Dr. Lorenz, of Vienna. The four specimens differ from *M. m. menetriesii* † merely by the clearer grey of the plumage, the under parts being decidedly lighter, less bluish, the cheeks and malar region more whitish grey, and the back likewise paler. The difference in the markings of the rectrices alluded to in the original description of *M. berlepschi* does not hold good. The females of the two forms are, however, much more different. That of *M. m. berlepschi* may readily be distinguished by having the upper wing-coverts mainly bright cinnamon-brown (instead of dull grey with indistinct buffy olive edges), the outer web of the remiges cinnamon

* *Journ. f. Orn.* 1908. p. 511.

† I had the two original specimens of *M. boliviana* Berl. from San Mateo, N. Bolivia, and a series from Teffé (cf. *Nov. Zool.* xiv. p. 69) for comparison.

(instead of olive-grey), and the rectrices warm brown edged with rufescent (not uniform olive-grey). Pileum and back are, furthermore, more or less brightly cinnamon-brown (instead of olive-grey or brownish olive), and the under parts deeper ochraceous. The female from Maruins agrees very closely with Natterer's hen birds, while the one from Calama is less rufescent on the back and tail, pointing towards *M. m. menetriesii*, from which it can, however, easily be told by the colour of the upper wing-coverts, etc.

The synonymy and range of the two races may be summarized as follows :—

(*a*) *Myrmotherula menetriesii menetriesii* (D'Orb.).

Myrmothera Menetriesii D'Orbigny, *Voyage, Oiseaux* p. 184 [(1838.—Cochabamba, Yuracarès, Bolivia), descr. ♂ ad., type in Paris Museum examined].

Myrmotherula menetriesii Ménégaux & Hellmayr, *Bull. Soc. Philomat. Paris* (9) viii. 1906. p. 51 (Yuracarès [type]; N.E. Peru); Hellmayr, *Nov. Zool.* xiv. 1907. p. 69 (crit.; Teffé); Snethlage, *Journ. f. Ornith.* lvi. 1908. p. 16 (Bom Lugar, Monte Verde, Ponto Alegre: Rio Purús).

M. boliviana Berlepsch, *Journ. f. Ornith.* xlix. p. 96 (1901.—San Mateo, N. Bolivia), descr. ♂ ♀; cf. Hellmayr, *Verhandl. Zool. Bot. Ges. Wien* liii. 1903. p. 210 (crit.).

M. brevicauda juruana Ihering, *Revist. Mus. Paulist.* vi. 1904. p. 440 (1905.—Rio Juruá, Brazil); cf. Hellmayr, *Nov. Zool.* xiv. 1907. p. 70.

M. longipennis Sclater, *Cat. Birds Brit. Mus.* xv. p. 241 (part.: specimens *p* and *q*: Rio Javarri, and Chamicuros, East Peru).

Hab. Eastern Bolivia: Cochabamba, Yuracarès (D'Orbigny), San Mateo, (Garlepp). W. Brazil: Rio Javarri (Bates); Teffé, R. Solimoëns (Hoffmanns); Rio Juruá (Garbe); Bom Lugar, Monte Verde, Ponto Alegre, on the Rio Purús. N.E. Peru (Castelnau): Chamicuros (Hauxwell).

Examined: 1 ♂ ad., Yuracarès, *type* of *M. menetriesii*; 2 ♂♂ ad., 1 ♂ imm., 1 ♀ ad., San Mateo, incl. the *type* of *M. boliviana*; 1 ♂ ad., R. Juruá, *type* of *M. brevicauda juruana*; 2 ♂♂, 2 ♀♀ ad., Rio Purús; 4 ♂♂ ad., 1 ♂ imm., 5 ♀♀, Teffé; 1 ♂ ad., R. Javarri; 1 ♂ ad., Chamicuros; 1 ♂, 2 ♀♀ ad., N.E. Peru (Castelnau coll. in Paris Museum).

(*b*) *Myrmotherula menetriesii berlepschi* Hellm.

Myrmotherula berlepschi Hellmayr, *Verhandl. Zool. Bot. Gesellsch. Wien* liii. p. 211 (1903.—Salto do Girao, Rio Madeira).

M. menetriesii (nec D'Orbigny) Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 82 (Ribeirão, Salto do Girao, Rio Madeira).

Hab. Central Brazil, right bank of the upper Rio Madeira: Salto do Girao, Ribeirão (Natterer), Calama (Hoffmanns), Maruins on the Rio Machados (Hoffmanns).*

Examined: 2 ♂♂, 1 ♀ ad., Salto Girao, incl. *type* of *M. berlepschi*, 1 ♀ ad., Ribeirão, all in the Vienna Museum; 2 ♂♂ ad., 1 ♀ ad., Calama, 1 ♀, Maruins, in the Tring and Munich Museums.

[222. **Myrmotherula cinereiventris** Scl. & Salv.

Cf. *Nov. Zool.* xiv. 1907. p. 384 (Borba).

Right bank of the Madeira: Borba (Hoffmanns). Widely distributed in Amazonia from Cayenne to Northern Peru and Eastern Ecuador, and most probably a geographic race of *M. menetriesii*. Cf. my remarks in *Nov. Zool.* xiv. 1907. p. 70.]

* Also recorded by Snethlage from Villa Braga (left bank of Tapajóz) and Alcobaça, Tocantins (*Journ. f. Orn.* 1908, pp. 512, 532). I have not seen specimens from either of these localities.

223. **Myrmotherula assimilis** Pelz.

Myrmotherula assimilis Pelzeln, *Zur Orn. Bras.* ii. pp. 81, 152 (1868.—Borba, Rio Madeira; below Poiares, Rio Negro; Rio Amajaú); Hellmayr, *Nov. Zool.* xiv. p. 384 (Humaytha).

Nos. 28, 415. ♂ ad., ♂ imm., Calama, 12. vi., 17. viii. 1907.—Wing 53, 54; tail 29, 30½; bill 13½, 14 mm.

No. 874. ♂ imm., Marmellos, 27. xii. 1907.—Wing 53; tail 29; bill 14 mm.

Nos. 824, 870. ♂♂ juv., Marmellos, 18, 26. xii. 1907.—Wing 51, 54; tail 30, 31; bill 14 mm.

The series fully confirms the distinctness of *M. assimilis*. The young males have the lower parts dingy (greyish) white, slightly shaded with buffy here and there, some of the upper wing-coverts brown edged with buff, etc., all remains of the juvenile plumage. For characters and range cf. *l.c.* p. 384.

224. **Ramphocaenus melanurus amazonum** Hellm.

[*Ramphocaenus melanurus* Vieillot, *Nouv. Dict.* xxix. p. 6 (1819.—"Brésil, par Delalande fils," sc. Rio de Janeiro).]

R. m. amazonum Hellmayr, *Nov. Zool.* xiv. p. 66 (1907.—Teffé, Rio Solimõens); idem, *l.c.* p. 373 (Humaytha, Borba).

Nos. 48, 383. ♂ ad., ♂ imm., Calama, 15. vi., 12. viii. 1907.—Wing 53, 54; tail 50, 47½; bill 22—23½ mm. "Iris brown, feet plumbeous, bill grey."

Nos. 14, 182. ♀♀ ad., Calama, 10. vi., 7. vii. 1907.—Wing 48, 53; tail 46; bill 22 mm. "Iris brown, feet and bill grey."

The series fully corroborates the characters of the subspecies. The Calama birds differ from *R. m. albiventris* (represented in the Munich Museum by specimens from Saint-Laurent-du-Maroni, French Guiana, Le Moult coll.) by the much paler "creamy buff" sides of the neck, by lacking the rufous tinge on the nape, and by having the chest and sides of breast faintly washed with creamy. The outer rectrices are tipped with smoky grey.

R. m. amazonum ranges from the Rio Madeira westward to Eastern Peru (Yurimaguas, Santa Cruz, Chyavetas) and northward to the Rio Solimoëns (Teffé). Farther to the south, on the Guaporé, one of the headwaters of the Rio Madeira, it is replaced by *R. melanurus sticturus* Hellm., of which Natterer obtained a good series at Villa Bella de Mattogrosso, Engenho do Gama, and São Vicente. Cf. *Nov. Zool.* xiv. 1907. pp. 373–5, where a short review of the geographical races of *R. melanurus* is given.

[225. **Sclateria argentata** (Des Murs).

Cf. *Nov. Zool.* xiv. 1907. p. 375 (Humaytha).

Heterocnemis albiventris Pelzeln, *l.c.* p. 161 (Guajaraguaçu, Girao, Borba).

Both banks of the Rio Madeira: Guajaraguaçu, Salto do Girao, Borba (Natterer), Humaytha (Hoffmanns). Also found on the Peruvian Amazons, Rio Negro, and Orinoco.*]

[226. **Sclateria schistacea leucostigma** (Pelz.).†

Cf. Hellmayr, *Nov. Zool.* xiv. 1907. p. 376 (Borba).

Right bank of the Rio Madeira: Borba (Hoffmanns).]

* In the *Cat. Birds Brit. Mus.* xv. p. 277, a specimen from Bartica Grove (Whitely) is recorded s.n. *H. argentata*. I have examined the bird; it is without doubt a young male of *Sclateria schistacea leucostigma* (Pelz.).

† I have examined the bird from the Rio Juruá, recorded by Ihering s.n. *Sclateria leucostigma* (*Rev. Mus. Paul.* vi. p. 442). It turns out to be a male of *Myrmelastes hyperythrus* (Gould).

227. **Sclateria schistacea humaythae** Hellm.

Sclateria schistacea humaythae Hellmayr, *Bull. B. O. C.* xix. p. 51 (1907.—Humaytha); Hellmayr, *Nov. Zool.* xiv. 1907. p. 375 (Humaytha, Paraiso).

No. 1020. ♂ ad., Maruins, Rio Machados, 15. vii. 1908.—Wing 68; tail 54; bill 19 mm.

No. 745. ♂ ad., Allianca, 5. xi. 1907.—Wing 70; tail 57; bill 19 mm.

No. 791. ♀ ad., Allianca, 17. xi. 1907.—Wing 68; tail 53; bill 20 mm.

Perfectly identical with the Humaytha series. The male from Allianca, in the length of tail, approaches *S. s. leucostigma*.

S. s. humaythae inhabits both banks of the river. On his first journey in 1906 Mr. Hoffmanns obtained a large suite at Humaytha, and a single female on the opposite side, near Paraiso.

228. **Myrmelastes luctuosus luctuosus** (Licht.).

Lanius luctuosus Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 47 (1823.—"Pará").
Thamnophilus luctuosus Pelzeln, *l.c.* p. 76 (Borba).
Myrmelastes luctuosus Hellmayr, *Nov. Zool.* xiv. p. 372 (Humaytha).

Nos. 387, 523. ♀♀ ad., Calama, 12. viii., 7. ix. 1907.—Wing 76, 78; tail 64, 66; bill 20, 22 mm.

Nos. 530, 561. ♀♀ ad., Jamarysinho, 9, 17. ix. 1907.—Wing 79—80; tail 68—70; bill 21 mm.

"Iris brown, feet plumbeous or blackish, bill black."

Identical with examples from the Tapajóz. The original locality requires confirmation, for in recent years the bird has not been found near the town of Pará.

229. **Hypocnemis cantator peruvianus** Tacz.

[*Formicarius Cantatar* (sic!) Boddaert, *Tabl. Pl. enl.* p. 44 (1783.—based on "Le Carrilloneur, de Cayenne," D'Aubenton, Pl. enl. 700. fig. 2: Cayenne).]
Hypocnemis cantator, peruvianus Taczanowski, *Orn. Pérou* ii. p. 61 (1884.—Yurimaguas, North Peru); Hellmayr, *Nov. Zool.* xiv. 1907. p. 377 (Humaytha).
H. cantator (not of Boddaert) Pelzeln, *l.c.* p. 87 (part.: Villa Maria, Engenho do Gama, Mattogrosso; Borba, Rio Madeira).

Nos. 262, 280, 369. ♂♂ ad., ♂ imm., Calama, 24, 27. vii., 11. viii. 1907. "Iris brown, feet plumbeous, bill black, lower mandible greyish."—Wing 54½—55; tail 38—42; bill 14½—15 mm.

Nos. 222, 261. ♀♀, Calama, 14, 24. vii. 1907.—Wing 53, 54; tail 37, 40; bill 14½, 15 mm.

No. 982. ♂ perad., Maruins, Rio Machados, 8. vii. 1908.—Wing 56½; tail 40½; bill 14½ mm.

No. 983. ♀ ad., Maruins, 8. vii. 1908.—Wing 55; tail 39; bill 14⅓ mm.

In the coloration of the upper parts—viz. large white dorsal patch, interscapulars coarsely spotted with black and distinctly edged with white—the adult males agree perfectly with a very large series from North-Eastern Peru, Teffé, Mattogrosso, and Itaitúba (R. Tapajóz). As a rule, specimens from Mattogrosso, Calama, Maruins, Rio Juruá, and East Bolivia (Yuracarès: D'Orbigny coll.) have the flanks paler ochraceous, but several skins from Pebas (Peru) and Teffé are not different in this respect.

The range of *H. c. peruvianus* is, according to my present knowledge, as follows :—

Brazil, south of the Amazon Valley : Arumatheua, Tocantins * ; Villa Braga, Bella Vista,† Itaitúba, ‡ Tapajóz ; Borba (Natterer), Calama, Maruins, Humaytha § (Hoffmanns), Rio Madeira ; Engenho do Gama, Rio Guaporé (Natterer) ; Villa Maria, Rio Paraguay (Natterer) ; Rio Juruá (Garbe) ‖ ; Bom Lugar, Purús ¶ ; Teffé, Rio Solimoëns (Hoffmanns), ** Ega (Bates), Rio Javarri (Bates). N.E. Bolivia : Yuracarès, near Cochabamba (D'Orbigny). †† Peru : Yurimaguas (Stolzmann), Upper Ucayali, Xeberos, Chyavetas, Chamicuros, Santa Cruz (Bartlett), Pebas (Hauxwell, Castelnau & Deville), Samiria (Hauxwell). Eastern Ecuador : Rio Napo (Petit), Sarayaçu (Buckley).

On the north bank of the Amazons, near Obidos and Manaos, it is replaced by the typical race, *H. c. cantator* (Bodd.). ‡‡

230. **Hypocnemis punctulata** (Des Murs).

Rhopotera punctulata Des Murs in Castelnau's *Voyage*, *Oiseaux* p. 53 (June 1856.—"Haut Amazone," sc. Peruvian Amazons).
Rhopothera guttata Des Murs, *l.c.* tab. xvii. fig. 3 [♀] (December 1856).
Hypocnemis punctulata Hellmayr, *Nov. Zool.* xiv. 1907. p. 377 (Humaytha).

No. 133. ♂ vix ad., Calama, 30. vi. 1907. "Iris greyish brown, feet yellowish grey, bill black."—Wing 60 ; tail 32 ; bill 15 mm.

No. 188. ♀ juv. in nestling plumage, Calama, 7. vii. 1907.—"Iris and feet grey."—Wing 60 ; tail 32 ; bill 14 mm.

The adult bird agrees with our series from Humaytha (left bank of the Rio Madeira) and the Caura Valley, Venezuela.

The nestling has never been described before. The pileum is uniform olive-brown as in the adult, but the back shows large buff spots of irregular shape and narrowly edged with blackish. The black spotting of the chest is altogether absent, all the lower surface except the white throat being clear buff, the feathers of the foreneck with indistinct edges of dusky. That the bird belongs here and not to *H. naevia theresae* is proved by its short tail, greyish (not wax-yellow) legs, and **blackish** upper tail-coverts.

H. punctulata is known from both banks of the Madeira, but not yet recorded from any Brazilian locality farther east.

231. **Hypocnemis naevia theresae** (Des Murs).

[*Pipra naevia* Gmelin, *Syst. Nat.* 1. ii. p. 1003 (1789.§§—ex D'Aubenton, Pl. enl. 823. fig. 2 (= ♂ ad.)—Cayenne).]
Conopophaga Theresae Des Murs in Castelnau's *Voyage*, *Oiseaux* p. 51. tab. xvi. fig. 2 [♀] (1856.—Rio Javarri, Peru).

Nos. 4, 134, 157, 264. ♂♂ imm., Calama, 8, 30. vi., 3, 24. vii. 1907.—Wing 59½—63 ; tail 39—43 ; bill 16—17 mm.

* Snethlage, *Journ. f. Orn.* 1908. p. 532.
† Eadem, *l.c.* p. 512.
‡ Hellmayr, *Nov. Zool.* xiv. 1907. p. 19.
§ Idem, *l.c.* p. 377.
†† *Thamnophilus striatothorax* D'Orbigny, *Voyage*, *Oiseaux* p. 176.
‡‡ Hellmayr, *Nov. Zool.* xiv. p. 32.
§§ Cf. Hopkinson, *Proc. Zool. Soc. Lond.* 1907. pt. iv. (publ. May 1908) pp. 1035-7.
‖ Ihering, *Revist. Mus. Paul.* vi. p. 442.
¶ Snethlage, *Journ. f. Orn.* 1908. p. 17.
** Hellmayr, *Nov. Zool.* xiv. 1907. p. 67.

Nos. 84, 363, 364, 476. ♀♀ imm., Calama, 21. vi., 10, 28. viii. 1907.—Wing 59—62 ; tail 40—42 ; bill 15—16½ mm.

No. 764. ♂ ad., Allianca, 8. xi. 1907.—Wing 59 ; tail 39 ; bill 15½ mm.

Nos. 952, 966, 1029. ♂♂ ad., Maruins, 28. vi., 1, 17. vii. 1908.—Wing 58—60 ; tail 39 ; bill 15—16 mm.

Nos. 951, 972. ♀♀ ad., Maruins, 28. vi., 5. vii. 1908.—Wing 59 ; tail 40½ ; bill 15 mm.

"Iris grey or brown, feet pale yellow or reddish yellow, bill black."

The series agrees perfectly with another from Eastern Ecuador (Napo) and several examples from Peru. **Adult** males have the top of the head slate-grey, the markings on the wings and the rounded spots of the interscapulium pure white or very nearly so, the basal portion of the tail clear ashy or but faintly tinged with olive, and the flanks as well as under tail-coverts very pale creamy buff. **Immature** males are much browner above, the pale markings on wings and back bright buff, and the flanks much more extensively and deeper ochraceous buff. **Adult** females differ from young ones merely by having the pileum more mixed with slate-grey.

The above variation is well illustrated by the two series from the Napo and Rio Madeira respectively.

As first pointed out by Ménégaux & Hellmayr,* two forms had been confounded under the name of *H. theresae*. In the following lines I give a condensed *résumé* of their characters, range, and synonymy:—

(*a*) *Hypocnemis naevia naevia* (Gm.).

Pipra naevia Gmelin, *Syst. Nat.* 1. ii. p. 1003 (1789.—ex D'Aubenton, Pl. enl. tab. 823. fig. 2 = ♂ : Cayenne) ; Latham, *Ind. Ornith.* ii. 1790. p. 559 (based on the same) ; Shaw, *Gen. Zool.* X. i. 1817. p. 32 (based on the same).

Conopophaga naevia Vieillot, *Nouv. Dict.* vii. 1817. p. 458 (based on the same).

Hypocnemis naevia Pelzeln, *Zur Orn. Bras.* ii. 1868. p. 89 (Marabitanas, Rio Negro, Natterer coll. ; Cayenne : ex Becœur) ; Berlepsch, *Nov. Zool.* xv. 1908. p. 159 (Ipousin, R. Approuague, Cherrie coll.).

H. naevia naevia Ménégaux & Hellmayr, *Bull. Soc. Philomat. Paris* 1906. p. 44 (Cayenne ; crit.).

H. theresae (nec Des Murs) P. L. Sclater, *Cat. Birds Brit. Mus.* xv. 1890. p. 292 (part. : specimens *a*, *b*, ex Oyapoc, Cayenne) ; Ménégaux, *Bull. Mus. Paris* x. 1904. p. 177 (Camopi, Cayenne, Geay coll.).

Hab. French Guiana : Cayenne (Buffon, Becœur), Oyapoc (Verdey), Ipousin, Rio Approuague (Cherrie), Camopi (Geay), Saint-Jean-du-Maroni (Le Moult ; Mus. Monac.). North Brazil : Marabitanas, upper Rio Negro (Natterer).

♂ ad. Above intense rufous brown, top of the head like the back, only the forehead slate-grey ; a restricted patch in the middle of the interscapular region black, marked with small, drop-shaped spots of pale buff. Tertials bright rufous brown, with a buff apical spot, preceded by a black subterminal band. Rectrices bright rufous brown, with a well-defined black subterminal bar, from 3 to 2 mm. wide, and a narrow buffy white apical margin. This measures about 1 to 2 mm. in width on the outer tail-feathers, but is scarcely indicated by a whitish fringe on the central pair. Sides of breast and abdomen as well as crissum bright ochraceous.

Wing 57—61 ; tail 37—42 mm.

♀ ad. Agrees in the specific characters with the male. Under surface bright ochraceous ; throat rather paler, more buff, bordered on each side by a narrow black malar streak.

* *Bull. Soc. Philomat. Paris* 1906. pp. 45-6.

Wing 56—60 ; tail 36—40 mm.

Obs. The five specimens from the Rio Negro, obtained by Natterer, are practically identical with the series from Cayenne.

Examined : 1 ♂ ad., Camopi ; 1 ♂ ad., Saint-Jean-du-Maroni ; 1 ♂ ad., Ipousin ; 2 ♂♂ ad., 1 ♀, Cayenne ; 1 ♂, 1 ♀, Oyapoc ; 3 ♂♂, 2 ♀♀, Marabitanas Rio Negro.

(*b*) *Hypocnemis naevia theresae* (Des Murs).

Conopophaga Theresae Des Murs in Castelnau's *Voyage, Oiseaux* p. 51. tab. xvi. fig. 2 [♀] (1856.—Rio Javarri, Peru).

C. naevia (not of Gmelin) Lafresnaye & D'Orbigny, *Syn. Av.* in *Mag. Zool.* cl. ii. 1837. p. 13 (Yuracarès, Bolivia) ; D'Orbigny, *Voy. Amér. mérid., Oiseaux* 1838. p. 186 (part.—♂ : Yuracarès).

Hypocnemis theresae Sclater, *P. Z. S. Lond.* 1858. p. 67 (Rio Napo) ; idem, *l.c.* p. 253 (Rio Javarri : Castelnau & Deville) ; idem, *Cat. Amer. Birds* 1862. p. 188 (Upper Amazons, Bates ; Rio Napo) ; Sclater & Salvin, *P. Z. S.* 1866. p. 187 (Upper Ucayali, E. Bartlett coll.) ; iidem, *l.c.* 1867. p. 750 (Xeberos, E. Bartlett coll.) ; iidem, *l.c.* 1873. p. 185 (Cosnipata, H. Whitely coll.) ; iidem, *l.c.* p. 276 (Upper Ucayali, Xeberos, Chamicuros : E. Bartlett) ; Taczanowski, *P. Z. S. Lond.* 1874. p. 531 (Monterico : Jelski coll.) ; idem, *l.c.* 1882. p. 32 (Huambo, Yurimaguas : Stolzmann) ; idem, *Orn. Pérou* ii. 1884. p. 72 (Peru) ; Sclater, *Cat. Birds Brit. Mus.* xv. 1890. p. 292 (part. : specimens *c—m*) ; Salvadori & Festa, *Boll. Mus. Torino* xiv. No. 362. 1899. p. 31 (Santiago, Zamora, East Ecuador : E. Festa) ; Ihering, *Revist. Mus. Paul.* vi. 1905. p. 442 (Rio Juruá).

H. naevia theresae Ménégaux & Hellmayr, *Bull. Soc. Philomat. Paris* 1906. p. 46 (crit. ; Rio Javarri, East Ecuador, Iquitos, Bolivia).

Hab. S.E. Colombia : Cuembi, Rio Putumayo (G. Hopke coll.—Mus. H. v. B.). Eastern Ecuador : Rio Napo (L. Petit coll. in Tring ; in Mus. Brit. ex Verreaux), Santiago, Zamora (E. Festa), Sarayaçu (Buckley). N. Peru : Iquitos (Whitely), Xeberos, Chamicuros, Upper Ucayali (Bartlett), Huambo, Yurimaguas (Stolzmann), Guayabamba (O. T. Baron). C. Peru : Chuchurras, Huánuco (W. Hoffmanns), Monterico (Jelski). S.E. Peru : Cosnipata (Whitely), Marcapata, Cuzco (O. Garlepp). W. Brazil : Rio Javarri (Castelnau & Deville) ; Rio Jurná (Garbe) ; Calama, Allianca on the Rio Madeira ; Maruins, Rio Machados (Hoffmanns) ; Lower Amazonia : Villa Braga, left bank of the R. Tapajóz (Snethlage). North Bolivia : Yuracarès (D'Orbigny), San Mateo (G. Garlepp).

♂ ad. Differs from *H. n. naevia* by having all the upper back black with much larger and more numerous buffy white spots, the top of the head and nape slate-grey, the rump and upper tail-coverts pale olive-brown, the tertials black tipped with white, the tail-feathers ashy or olive-grey with much broader (6—8 mm.) black subterminal and white apical bands, and the flanks much paler, creamy buff. Even immature birds are readily distinguishable by the olive-brown ground-colour of the head and back, and paler flanks, besides the other characters.

Wing 58—64 ; tail 38—43 mm.

♀ ad. In addition to the points of difference given under the heading of the male, the females of *H. n. theresae* have the black malar stripe much broader than in the typical race, and the throat pure white.

Wing 58—62 ; tail 38—42 mm.

Obs. I could not find any constant difference between examples from various localities. Two ♂♂ imm. from Villa Braga, left bank of the Tapajóz, agree exactly with others from more western countries. All of the many females I have seen have the foreneck coarsely spotted with black.

Examined : 1 ♀ ad., Cuembi, R. Putumayo, S.E. Colombia—Mus. H. v. Berlepsch ; 4 ♂♂, 1 ♀, Rio Napo, Petit coll. in Tring Museum ; 1 ♀, Rio

Javarri, *type*, in Mus. Paris; 1 ♂ ad., Chamicuros, Mus. Tring; 2 ♂♂, 2 ♀♀, Iquitos, Mus. Tring et H. v. B.; 1 ♀, Cosnipata, Mus. H. v. B.; 1 ♂ imm., Huambo, Mus. H. v. B.; 14 ♂♂ ad., ♂♂ imm., ♀♀, Marcapata, Cuzco—Mus. H. v. B., Vienna and Munich; 1 ♀, Guayabamba, O. T. Baron—Mus. Brit.; 1 ♂ ad., Chuchurras, Huánuco—Mus. Tring; 4 ♂♂ ad., 4 ♂♂ imm., 6 ♀♀, Rio Madeira—coll. Hoffmanns; 2 ♂♂ imm., Villa Braga, R. Tapajóz—Mus. Pará; 1 ♂ ad., Yuracarès, Bolivia, D'Orbigny coll. in Mus. Paris; 1 ♀ ad., S. Mateo, Bolivia, in Mus. H. v. B.—altogether nearly fifty specimens.

232. **Hypocnemis poecilinota griseiventris** (Pelz.).

[*Hypocnemis poecilinota* Cabanis, *Arch. Naturg.* 13. i. p. 212. tab. 4. fig. 2, descr. orig. ♂ (1847.—British Guiana).]

Pithys griseiventris Pelzeln, *Zur Ornith. Bras.* ii. p. 167, descr. orig. ♀ (1868.—Villa Maria and Engenho do Gama, Mattogrosso; Borba, Rio Madeira).

Hypocnemis poecilonota Pelzeln, *l.c.* p. 88 (part.: Borba); cf. *Nov. Zool.* xiii. p. 371.

H. poecilinota griseiventris Hellmayr, *Nov. Zool.* xiii. 1906. p. 372 (crit.); idem, *l.c.* xiv. 1907. p. 67 (Teffé, Rio Solimoëns); idem, *l.c.* p. 378 (Humaytha, Borba: Rio Madeira).

Nos. 16, 56, 74, 121, 257, 296. ♂♂ ad., Calama, 10, 17, 18, 28. vi., 29. vii. 1907.—Wing 67—70; tail 43—47; bill 17—18 mm.

No. 625. ♂ ad., S. Isabel, Rio Preto, 4. x. 1907.—Wing 67; tail 42; bill 16 mm.

Nos. 21, 39, 57. ♂♂ juv., Calama, 11, 14, 17. vi. 1907.—Wing 68—69; tail 45—47; bill 17—18 mm.

Nos. 27, 42, 114, 130, 192. ♀♀ ad., ♀ imm., Calama, 12, 14, 26, 29. vi., 8. vii. 1907.—Wing 66—70; tail 43—48; bill 16½—18 mm.

Nos. 779, 787, 800, 811. ♀♀ ad., Allianca, 12, 14, 22. xi., 2. xii. 1907.—Wing 64—68; tail 41—44; bill 16½—17 mm.

No. 904. ♂ ad., Maruins, R. Machados, 4. vi. 1908.—Wing 70; tail 43; bill 17 mm.

No. 899. ♂ juv., Maruins, 2. vi. 1908.—Wing 65; tail 42; bill 16½ mm.

No. 995. ♀ ad., Maruins, 11. vii. 1908.—Wing 65; tail 45; bill 17 mm.

"Iris brown or greyish brown, feet grey or plumbeous, bill black."

The adult ♂♂ differ from *H. p. poecilinota*, of which the Munich Museum possesses a very large series from Cayenne and the Caura Valley, by their considerably darker slate-grey under parts, and by having the white interscapular patch much more extended. The colour of the upper tail-coverts, however, is variable and cannot be used as distinctive character. The females are typical (for description see *Nov. Zool.* xiii. p. 372); the colour of the throat varies from white to cinereous.

H. p. griseiventris is only known from Teffé, Rio Solimoëns, and the Rio Madeira where it inhabits both banks, but it has not yet been found farther to the east, *e.g.* on the Tapajóz.

233. **Hypocnemis leucophrys angustirostris** (Cab.).

[*Pithys leucophrys* Tschudi, *Arch. Naturg.* 10. i. p. 278, descr. orig. ♂ (1844.—Peru).]

Conopophaga angustirostris Cabanis in Schomburgk, *Reisen Brit. Guiana*, iii. p. 685, descr. orig. ♀ (1848.—Coast district of British Guiana).

Hypocnemis leucophrys angustirostris Hellmayr, *Nov. Zool.* xiv. 1907. p. 378 (Humaytha).

H. leucophrys (nec Tschudi) Pelzeln, *l.c.* p. 88 (Borba).

Nos. 177, 238. ♂♂ ad., Calama, 1, 18, vii. 1907.—Wing 70, 71; tail 47, 49; bill 17 mm.

No. 562. ♂ ad., Jamarysinho, 17. ix. 1907.—Wing 70 ; tail 46½ ; bill 17 mm.

No. 849. ♂ ad., Marmellos, 22. xii. 1907.—Wing 67 ; tail 45 ; bill 17 mm.

Nos. 1, 816, 907. ♀♀ ad., Calama, 8. vi. 1907 ; Marmellos, 16. xii. 1907 ; Maruins, 5. vi. 1908.—Wing 65—68 ; tail 42—46 ; bill 17 mm.

"Iris brown, feet plumbeous or bluish black, bill black."

Identical with examples from British Guiana, Caura Valley, etc. *H. l. angustirostris* is widely distributed in Amazonia, from the Tocantins westward to the rivers Purús and Juruá, and to Teffé, Rio Solimoëns, in the north.

[234. **Hypocnemis myotherina melanolaema** Scl.

[*Thamnophilus myotherinus* Spix, *Av. Bras.* ii. p. 30. tab xlii. fig. 1 [♂ ad.] (1825.—part. : descr. of ♂ only, no locality ; cf. *Nov. Zool.* xiv. 1907. pp. 20-1).]

Hypocnemis melanolaema Sclater, *Proc. Zool. Soc. Lond.* xxii. 1854. p. 254. pl. lxxii. fig. 2 (1855.—"in Peruvia, Chamicurros").

H. myotherina melanolaema Hellmayr, *Nov. Zool.* xiv. 1907. p. 379 (Humaytha).

Left bank of the Madeira : Humaytha (Hoffmanns). Not obtained on his second journey.

On the right bank of the stream it is replaced by the next form.]

235. **Hypocnemis myotherina sororia** n. subsp.

Hypocnemis myotherina melanolaema (nec Sclater) Hellmayr, *Nov. Zool.* xiv. 1907. p. 379 (part. : No. 1311, ♂ vix ad., Paraiso).

Nos. 13, 31, 136, 160, 181, 259, 400. ♂♂ ad., Calama, 10, 13, 30. vi., 3, 7, 23. vii., 15. viii. 1907. "Iris red or brownish red, feet plumbeous, bill black."—Wing 62—65 ; tail 38—41 ; bill 15¾—16½ mm.

No. 159. ♂ vix ad., Calama, 3. vii. 1907. "Iris red-brown, feet grey, bill black."—Wing 63 ; tail 40½ ; bill 16½ mm.

No. 540. ♂ ad., Jamarysinho, Rio Machados, 12. ix. 1907. "Iris brownish red, feet clear grey, bill black."—Wing 64 ; tail 41 ; bill 15 mm.

Nos. 169, 403. ♂♂ juv., Calama, 6. vii., 16. viii. 1907. "Iris brown, feet grey, bill black."—Wing 62, 63 ; tail 38½, 41 ; bill 16 mm.

Nos. 20, 23, 83, 85, 158, 258. ♀♀ ad., Calama, 11, 21. vi., 3, 23. vii. 1907. "Iris brown or reddish brown, feet plumbeous, bill black, lower mandible greyish."—Wing 62—64 ; tail 37—41 ; bill 15—16½ mm.

Nos. 12, 125. ♀♀ juv., Calama, 10, 29. vi. 1907. "Iris brown, feet grey, bill black, lower mandible pale."—Wing 61, 64½ ; tail 40 ; bill 15, 15½ mm.

Nos. 932, 1013. ♀♀ ad., Maruins, Rio Machados (Vargem), 18. vi., 13. vii. 1908. "Iris brown, feet grey, bill black, below greyish."—Wing 63, 63½ ; tail 40½, 42 ; bill 15, 15½ mm.

♂ ad. Much like *H. m. melanolaema* Scl. from Northern Bolivia, Peru, and Humaytha, left bank of the Rio Madeira, but averaging smaller and the cinereous colour of the under parts somewhat richer. Pale band behind the black frontal edge and superciliary streak ill-defined, greyish white, exactly as in its western representative.

♀ ad. Agrees with *H. m. melanolaema* Scl. in the pale lower mandible, but the breast and abdomen are much darker, deep ochraceous as in *H. m. ochrolaema* Hellm. It differs, however, from both in having the throat neither pure white like

the former, nor deep ochraceous like the latter, but light creamy buff, in decided contrast to the colour of the belly. The cheeks and malar region are bright buff with narrow dusky cross-lines.

Type in Tring Museum : No. 158, ♀ ad., Calama, 3. vii. 1907 (W. Hoffmanns coll.).

This adds another to the three forms of the *H. myotherina* group of which I have given a review in *Nov. Zool.* xiv. 1907. pp. 20-2. While the male does not much differ from the same sex of *H. m. melanolaema*, the female may be recognized at a glance from *H. m. melanolaema* and *H. m. ochrolaema*, although in its characters it stands somewhat between the two. It shares the pale greyish lower mandible with *H. m. melanolaema*, but in the deep ochraceous colour of the belly it agrees with *H. m. ochrolaema*, which is found on the Tapajóz as well as farther down on the right bank of the Madeira near Borba. The latter form, however, has the lower mandible **blackish** like the upper one, and the throat deep ochraceous like breast and abdomen, whereas in the female of the new race the throat is pale creamy buff, very much paler than, and in strong contrast to, the rest of the under parts. The cheeks and malar region are brighter buff, variegated with dusky in *sororia*, uniform deep ochraceous in *ochrolaema*.

The upper parts are rather variable, being sometimes dull greenish olive as in *ochrolaema*, sometimes warm olive-brown with a more or less distinct rufescent tinge as in *melanolaema*. Superciliary streak and white dorsal patch as in *ochrolaema*. Most of the specimens have a number of small, dusky olive spots on the foreneck, but in two skins (Nos. 20, 932) these are scarcely indicated.

The young females (Nos. 12, 125) are more olive, less brownish, on the upper parts, the rufescent olive superciliary streak is barely indicated, there is scarcely any white at the base of the dorsal feathers, the belly is much paler, the throat nearly pure white, and the upper wing-coverts lack the ochraceous apical bands.

The male from Paraizo, provisionally referred to *H. m. melanolaema*, doubtless belongs to the present race.

H. m. sororia furnishes another instance of rivers separating the ranges of nearly allied forms. It would be interesting to know the meeting-point of *H. m. sororia* and *H. m. ochrolaema*, both of which occur on the right bank of the Rio Madeira, the latter near its mouth, the former farther up the stream.

[236. **Hypocnemis myotherina ochrolaema** Hellm.

Hypocnemis myotherina ochrolaema Hellmayr, *Bull. B. O. C.* xvi. p. 109 (1906.—Itaitúba, left bank of the Tapajóz) ; idem, *Nov. Zool.* xiv. 1907. p. 379 (Borba).
H. myiotherina (nec Spix) Pelzeln, *l.c.* p. 88 (Borba).

Right bank, lower Rio Madeira : Borba (Hoffmanns, Natterer).

This form extends eastwards to the left side of the Tocantins (Arumathena, Alcobaça).* Miss Snethlage has kindly sent the two specimens for my inspection. The male is practically identical with one from Borba, while the female slightly differs from those obtained at Itaitúba and Borba, by having the lower mandible dusky with the extreme base pale yellowish (instead of uniform black).

In all the females of *H. m. ochrolaema* the throat is deep ochraceous like the rest of the under parts.]

* *Journ. f. Orn.* 1908. p. 533.

[237. **Hypocnemis lugubris feminina** Hellm.

Hypocnemis lugubris feminina **Hellmayr**, *Rev. Franç. d'Orn.* **No. 11. p. 164 (1910.—Borba, Rio Madeira).**

H. lugubris **(nec Cabanis) Pelzeln**, *l.c.* **pp. 88, 163 (Borba) ; Hellmayr**, *Nov. Zool.* **xiv. 1907. p. 379 (syn. part. and excl. specimens 1, 2 ; Borba).**

Right bank : Borba (Hoffmanns, Natterer).

As pointed out *l.c.* the birds from the Rio Madeira and lower Rio Negro are subspecifically distinct from true *H. l. lugubris* (Cab.),* with which *H. hypoleuca* Ridgw.† is synonymous. The typical race is found on the south bank of the Amazons (Santarem, Paricatúba), while a third, nearly allied form, *H. lugubris berlepschi* Hellm., inhabits Northern Peru (Iquitos, Nauta).

A review of the *H. lugubris* group is given *l.c.*]

238. **Hypocnemis melanopogon** Scl.

Hypocnemis melanopogon **Sclater**, *Proc. Zool. Soc. Lond.* **xxv. 1857. p. 130 (1857.—Guiana ; cf. *Nov. Zool.* xiv. p. 381) ; Hellmayr**, *Nov. Zool.* **xiv. 1907. p. 381 (Humaytha, Borba).**

Nos. 166, 422, 527, 731. ♂♂ ad., Calama, 5. vii., 18. viii., 8. ix., 27. x. 1907.—Wing 62—64 ; tail 34—36 ; bill 16—17 mm.

No. 711. ♂ ad., S. Isabel, Rio Preto, 17. x. 1907.—Wing 64½ ; tail 35 ; bill 17 mm.

Nos. 70, 163, 184, 224, 267, 277, 526. ♀♀ ad. and imm., Calama, 18. vi., 4, 7, 15, 25, 27. vii., 8. ix. 1907.—Wing 62—65 ; tail 34—37 ; bill 16½—17 mm.

Nos. 608, 712. ♀♀ ad., S. Isabel, Rio Preto, 2, 17. x. 1907.—Wing 61, 63 ; tail 33, 34 ; bill 16½ mm.

" Iris grey, feet plumbeous or blackish, bill black, in females lower mandible grey."

The specimens agree perfectly with our large series from British Guiana and the Caura Valley, Venezuela. In none of them is there any trace of a white interscapular patch ; the white apical margins to the rectrices are from ½ to 1 mm. wide.

H. melanopogon inhabits both sides of the Madeira. During his first trip in 1906, Mr. Hoffmanns obtained a series at Humaytha, on the left bank.

239. **Hypocnemis maculicauda** Pelz.

Hypocnemis maculicauda **Pelzeln**, *Zur Orn. Bras.* **ii. pp. 89, 164 (1868.—Villa Maria (type locality) ; Villa Bella de Mattogrosso ; Engenho do Gama, Rio Guaporé).**

No. 925. ♀ imm., Marmins, Rio Machados, 12. vi. 1908. "Iris black, feet black, bill black, below grey."—Wing 59 ; tail 38 ; bill 16 mm.

This bird agrees in every detail with some of Natterer's females (Villa Maria ; Vienna Museum), and differs from the preceding species by its smaller size, and by having a large, concealed white interscapular patch, and broad white tips to the rectrices, about 5 mm. in width. It is a remarkable fact that the Rio Machados should possess a species different from that found on the main stream. A similar case has already been discussed, cf. *Pipra aureola fasciicauda* and *P. a. calamae*, p. 303.

H. maculicauda is evidently the southern and western representative of

* ***Myrmonax lugubris*** **Cabanis, *Arch. Naturg.* 13. i. p. 211 (1847.—" Pará ").**

† ***Heterocnemis*** *(?)* ***hypoleuca*** **Ridgway, *Proc. U.S. Mus.* x. 1887. p. 523 (1888.—Diamantina, Santarem).**

H. melanopogon, but I do not venture to employ a trinomial name on the evidence of our present knowledge. *H. maculicauda* ranges from the Rio Machados and the headwaters of the Madeira (Rio Guaporé, etc.) through Western Brazil (Purús, Juruá; Olivença on the Rio Solimoëns) to Eastern and Northern Peru. *H. melanopogon* inhabits the countries north of the Amazon Valley (Mexiana Island, the Guianas, the Orinoco and Rio Negro district), but descends along the Madeira as far as Humaytha (left bank), Calama and S. Isabel (right side). *H. maculicauda*, however, has also been found in the Pará district (Prata, Rio Acará, Capim) * and on the Tapajóz.† Three specimens before me, a couple from Pará and a male from Goyana, Tapajóz, agree with Upper Amazonian skins in size and in the possession of a large white interscapular patch; but the white ends to the rectrices are decidedly narrower, though much wider than in *H. melanopogon*. A larger series from the Lower Amazons is required to prove the constancy of this character or otherwise.

[240. **Hypocnemis hemileuca** Scl. & Salv.

Hypocnemis hemileuca Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1866. p. 186 (1866.—Lower Ucayali).

Terenura melanoleuca Pelzeln, *Zur Orn. Bras.* ii. p. 157 (1868.—Borba, Rio Madeira).

Right bank: Borba (Natterer).

I have shown ‡ *T. melanoleuca* to be synonymous with *H. hemileuca*. Mr. Hoffmanns did not meet with this rare species, which is still only known from the type, obtained by E. Bartlett; the two adult males taken many years ago by Natterer near Borba; and the type of *Myrmochanes hypoleucus* § from Reyes, N.E. Bolivia. There is a fifth, hitherto unrecorded specimen in Count Berlepsch's collection. It was secured in Eastern Ecuador by one of the men employed by the late Henry Whitely, of Woolwich, but its exact place of capture is not known.]

[241. **Dichrozona cincta** (Pelz.).

Cyphorhinus (*Microcerculus*) *cinctus* Pelzeln, *Zur Orn. Bras.* i. pp. 47, 65 (1867.—Borba, Rio Madeira; São Joaquim, Rio Negro); cf. Hellmayr, *Nov. Zool.* xiii. 1906. p. 348 (crit.).

Rio Madeira: Borba (Natterer).

This species is represented by but few specimens in scientific collections. Natterer obtained a male at São Joaquim on the upper Rio Negro, near the mouth of the Uaupés, and a female at Borba, in January 1830. The type of *Dichrozona zononota* Ridgw. ‖ was shot by Mr. C. B. Riker at Diamantina, near Santarem, on the Rio Tapajóz, and the original examples of *Hypocnemis stellata* Scl. & Salv. ¶ were taken at a place called Sarayaçu, Eastern Ecuador, by one of Buckley's hunters. More recently, I have examined an immature female collected at Uby no Cachoeira, Rio Purús, June 17, 1903, and preserved in the Pará Museum.** Prof. von Ihering records a male from the Rio Juruá, secured May 30, 1902.††]

* Snethlage, *Journ. f. Orn.* 1907. p. 287.
† Eadem, *l.c.* 1908. p. 513.
‡ *Nov. Zool.* xiii. 1906. p. 348.
§ Allen, *Bull. Amer. Mus.* ii. p. 95 (1889.—Reyes, N.E. Bolivia).
‖ *Proc. U.S. Mus.* x. 1887. p. 524 (1888).
¶ *Proc. Zool. Soc. Lond.* 1880. p. 160.
** *D. cincta* Snethlage, *Journ. f. Orn.* 1908. p. 17.
†† *Microcerculus cinctus* Ihering, *Revist. Mus. Paul.* vi. 1904. publ. 1905, p. 431.

242. **Cercomacra sclateri** Hellm.

Cercomacra sclateri **Hellmayr**, *Nov. Zool.* xii. pp. 286, 288 (1905.—Chyavetas, East Peru).
C. caerulescens (nec Vieillot) Pelzeln, *l.c.* p. 84 (Borba, Salto do Girao, Rio Madeira ; Mattogrosso, Rio Guaporé).

Nos. 90, 99, 401, 468. ♂♂ ad., Calama, 22, 23. vi., 16, 27. viii. 1907.—Wing 64—66; tail 69—70; bill 17—18½ mm.

No. 545. ♂ ad., Jamarysinho, Rio Machados, 13. ix. 1907.—Wing 66 ; tail 66 ; bill 17 mm.

Nos. 170, 571. ♀♀ ad., Calama, 6. vii. 1907 ; Jamarysinho, 18. ix. 1907.—Wing 60 ; tail 64 ; bill 16½, 17 mm.

" Iris grey or brown, feet black, bill black, lower mandible grey in females."

Typical of *C. sclateri*, with the bend of the wing largely white, and with distinct white apical margins to the upper wing-coverts. Two of the males are very nearly as dark slate-grey as the type from Chyavetas, while the others are paler schistaceous, more like the specimens from Pará and Itaitúba. An adult male from the Rio Purús (Bom Lugar) is scarcely paler underneath than Peruvian examples, but in the colour of the upper parts it resembles those from the Lower Amazons.

To the range as given in *Nov. Zool.* xii. p. 288 the following localities are to be added :—

N. Brazil : São Antonio do Prata (Hoffmanns, Snethlage), Rio Capim, Rio Guamá (Snethlage) ; Rio Tapajóz : Itaitúba (Hoffmanns), Villa Braga (Snethlage). W. Brazil : Calama, Jamarysinho, Rio Madeira (Hoffmanns) ; Bom Lugar, Rio Purús (Snethlage), Teffé, Rio Solimoëns (Hoffmanns). Besides, I have examined, in the Paris Museum, 2 ♂♂ ad., 3 ♀♀ from Sarayaçu, Eastern Peru, brought back by the Castelnau Expedition.

243. **Cercomacra nigrescens approximans** Pelz.

[*Percnostola nigrescens* Cabanis & Heine, *Mus. Heinean.* ii. p. 10 (1859.—Cayenne).]
Cercomacra approximans Pelzeln, *Zur Orn. Bras.* ii. pp. 85, 158 (1868.—Engenho do Gama and Mattogrosso, Rio Guaporé).
C. nigrescens approximans **Hellmayr**, *Nov. Zool.* xiv. 1907 p. 372 (Borba).

No. 402. ♂ ad., Calama, 16. viii. 1907.—Wing 68 ; tail 64 ; bill 18 mm.

Nos. 640, 642. ♂ imm., ♂ juv., S. Isabel, Rio Preto, 8. x. 1907.

Nos. 615, 636, 661. ♀♀ ad., S. Isabel, Rio Preto, 3, 7, 10. x. 1907.—Wing 63—65 ; tail about 57 ; bill 16½—17 mm.

No. 795. ♂ juv., Allianca, 20. xi. 1907.—Wing 65 ; tail 64 ; bill 16 mm.

The series agrees perfectly with others from Itaitúba (Tapajóz) and some of Natterer's typical specimens from the Guaporé. Peruvian skins (Pebas, Guayabamba, Huambo, and Garita del Sol) are slightly different, the males being darker, more sooty both above and below, the females decidedly rufescent-brown (instead of dull brownish olive) on the back. Whether these characters are constant I am not in a position to say, owing to my material being too inadequate. *C. serva* (Scl.) is very nearly allied to *C. n. approximans*. Although it would appear that both species occur side by side in Eastern Ecuador as well as in certain districts of Peru, yet their relationship is not at all clearly understood.

C. n. approximans ranges, in the east, to the left bank of the Tapajóz.

244. **Formicivora grisea grisea** (Bodd.).

Turdus grieseus (sic) Boddaert, *Tabl. Pl. enl.* p. 39 (1783.—ex D'Aubenton, Pl. enl. 643. fig. 1 = ♂ : Cayenne).

Formicivora grisea Pelzeln, *l.c.* p. 83 (Engenho do Gama, [Villa Bella de] Matogrosso, Rio Guaporé ; Borba, Rio Madeira).

Nos. 600, 602, 719. ♂♂ ad., ♂ imm., S. Isabel, Rio Preto, 1, 19. x. 1907.—Wing 55–56 ; tail 47—49 ; bill 13½—15 mm.

Nos. 616, 618, 619, 637. ♀♀, S. Isabel, 4, 7. x. 1907.—Wing 54—55 ; tail 47—49 ; bill 13—14 mm.

" Iris brown, feet plumbeous or grey, bill black."

Identical with specimens from Cayenne, British Guiana, Pará, and Maranhão. The Rio Madeira appears to form the western limits of its range south of the Amazons ; the most southerly localities in Amazonia as yet known are Engenho do Gama and São Vicente, on the Guaporé, where Natterer obtained a large suite.

I hope to discuss the various geographical races of the *grisea* group in another paper shortly to appear.

[245. **Formicivora rufa** (Wied).

Cf. *Nov. Zool.* xiv. 1907. p. 372 (Humaytha).

Left bank of the Madeira : Humaytha (Hoffmanns).

Widely distributed in Central South America, ranging to the north as far as Santarem, and eastward to Bahia.]

246. **Formicivora quixensis bicolor** Pelz.

[*Thamnophilus quixensis* Cornalia, *Vertebr. Syn. Osculati Coll.* p. 12 (1849.—Quixos, Eastern Ecuador).]

Formicivora bicolor Pelzeln, *Zur Orn. Bras.* ii. pp. 84, 156 (1868.—Engenho do Gama, Rio Guaporé ; Destacamento do Ribeirão, Salto do Girao, Borba, Rio Madeira) ; Hellmayr, *Nov. Zool.* xiv. 1907. p. 373 (Borba).

Nos. 44, 91, 484, 744. ♂♂ ad., Calama, 15, 22. vi., 29. viii., 1. xi. 1907. "Iris dark brown, feet and bill black."—Wing 54½—56 ; tail 50—53 ; bill 14 mm.

F. q. bicolor has lately been met with in various localities south of the main valley of the Amazons. Mr. Hoffmanns obtained it at Teffé (Rio Solimoëns), near Itaitúba, left bank of the Rio Tapajóz, as well as at Borba. Prof. Ihering received specimens from the Rio Juruá,* and Miss Snethlage records it from Bom Lugar, Purús.†

The newly described *F. consobrina microsticta* Berl.,‡ from Cayenne, is also much more nearly related to *F. bicolor* than to *F. consobrina*, differing only in its stouter, broader bill and slightly shorter white tips to the outer rectrices. The pattern of the wing-coverts is exactly the same in both forms. *F. consobrina*, from Western Ecuador and Western Colombia, on the other hand, has much less white in the tail, the white tips being only about half as long, and the white spots on the greater upper wing-coverts are much larger, as correctly pointed out by Count Berlepsch. I have examined, in addition to the typical series of *F. microsticta* in Tring, two adult males secured at Saint-Jean-du-Maroni by M. Le Moult, in the collection of the Munich Museum.

* *Revista Mus. Paul.* vi. 1905. p. 442.

† *F. bicolor* Snethlage, *Journ. f. Orn.* 1908. p. 16—*F. consobrina* (!) eadem, *l.c.* p. 24 ; eadem, *Bol. Mus. Goeldi* v. 1908. p. 57.—I have examined the examples, which are, of course, referable to *F. bicolor*. *F. consobrina* is confined to Western Ecuador and W. Colombia.

‡ *Nov. Zool.* xv. 1908. p. 157 (Rio Approuague, Cayenne).

F. q. quixensis (Cornalia), from Eastern Ecuador, has the white apical spots on the greater wing-coverts nearly as large as *F. q. consobrina*, but the white ends of the outer rectrices are rather longer, and the dimensions greater. The female, moreover, differs at a glance from those of *F. bicolor*, *microsticta*, and *consobrina* by having the throat and sides of the head, like the pileum and back, black with a slight gloss, while, in its allies, the throat is ferruginous or chestnut-rufous like the rest of the belly, the sides and top of the head are slate-grey, etc.

All the black-and-white *Formicivorae* represent each other geographically, and are therefore more properly designated by trinomials.

247. **Myrmeciza hemimelaena pallens** Berl. & Hellm.

[*Myrmeciza hemimelaena* Sclater, *Proc. Zool. Soc. Lond.* xxv. 1857. p. 48 (1857.—Bolivia).]

Formicivora ruficauda (nec *Myiothera ruficauda* Wied, 1831) Pelzeln, *Zur Orn. Bras.* ii. p. 155 (1868.—Engenho do Gama, Villa Bella de Matogrosso, Western Matogrosso); Hellmayr, *Verhandl. Zool.-Bot. Gesellsch. Wien* liii. 1903. p. 213.

Myrmeciza hemimelaena pallens Berlepsch & Hellmayr, *Journ. f. Ornith.* 1905. p. 32 (January 1905.—Matogrosso).

Drymophila juruana Ihering, *Revist. Mus. Paulist.* vi. 1904. p. 442 (May 1905.—Rio Juruá: new name for *F. ruficauda* Pelz. preoccupied).

Nos. 247, 311, 319. ♂♂ ad., ♂ imm., Calama, 22, 31. vii., 1. viii. 1907.—Wing 56—57; tail 38; bill 15 mm.

No. 555. ♂ ad., Jamarysinho, 15. ix. 1907.—Wing 56; tail 34; bill 14 mm.

Nos. 970, 1022. ♂♂ ad., Maruins, 4, 16. vii. 1908.—Wing 57—58; tail 34—36; bill 14½—15 mm.

Nos. 263, 316. ♀♀ ad., Calama, 24. vii., 1. viii. 1907.—Wing 53, 54; tail 37, 39; bill 14½ mm.

No. 567. ♀ imm., Jamarysinho, 18. ix. 1907.—Wing 54; tail 35½; bill 14 mm.

No. 980. ♀ ad., Maruins, 9. viii. 1908.—Wing 55; tail 35; bill 14 mm.

"Iris brown, feet flesh-colour, light yellow or greyish yellow, bill black."

The males differ from a series of *M. h. hemimelaena* from Bolivia and South-Eastern Peru by their paler, cinnamomeous instead of castaneous, colour of the back and wings, clearer cinnamon-rufous tail, and much lighter, fulvescent, not deep rufescent brown, flanks. Besides, the black is restricted to the throat and foreneck (while, in the typical race, it is continued over the chest), and the white area on the breast and middle of abdomen much more extended. The other character alluded to by Berlepsh & Hellmayr, viz. the colour of the pileum and nape, however, does not seem to be quite constant, for one or two specimens from the Rio Madeira are not different on this score from typical *M. h. hemimelaena* from Bolivia.

The females are always readily distinguishable from those of the latter form by having the throat and foreneck very much paler, ochraceous instead of ferruginous, the middle of the belly nearly white instead of ochraceous buff, and all the upper parts much lighter-coloured.

The range of the two forms is as follows :—

(*a*) *M. hemimelaena hemimelaena* Scl.

North Bolivia: San Mateo, Yungas of Cochabamba (G. Garlepp—Mus. H. v. B.), Yuracarès (D'Orbigny *). South-Eastern Peru: Marcapata, Cuzco (O.

* *Thamnophilus guttatus* (errore !) D'Orbigny, *Voyage, Oiseaux* p. 177.—I have examined D'Orbigny's original example, an adult male, in the Paris Museum, and found it identical with others from S.E. Peru.

Garlepp—Mus. H. v. B., Vienna). North Peru: Xeberos (Bartlett), Huambo (Stolzmann), R. Huallaga. [? Eastern Ecuador: Sarayaçu.]

N.B.—Specimens from Huambo agree with the Bolivian ones. Having never seen Ecuadorian birds, I cannot say whether they have been correctly referred to the present form. In the Chanchamayo district, Central Peru, a nearly allied species, *M. spodiogastra* Berl. & Stolz.,* takes its place.

(*b*) *M. hemimelaena pallens* Berl. & Hellm.

Western Brazil: Engenho do Gama, Villa Bella de Mattogrosso, on the Rio Guaporé (Natterer); Calama, Rio Madeira; Jamarysinho, Maruins on the Rio Machados (Hoffmanns); Rio Juruá (Garbe).

[248. **Myrmeciza ferruginea** (P. L. S. Müll.).

Turdus ferrugineus P. L. S. Müller, *Natursyst.* Suppl. p. 141 (1776.—based on "Merle à cravate, de Cayenne," D'Aubenton, Pl. enl. 560. fig. 2.—Cayenne).
Turdus cinnamomeus Gmelin, *Syst. Nat.* 1. ii. p. 825 (1789.—based on the same).
Myrmeciza cinnamomea Pelzeln, *l.c.* p. 87 (Borba).

Right bank: Borba (Natterer). This is the most southerly locality from which the species has been recorded. Miss Snethlage,† lately, secured a male at Villa Braga, on the left bank of the Tapajóz. It is common in Cayenne, Surinam, and British Guiana. Mr. Hoffmanns sent a female from Obidos, north side of the Amazons.]

249. **Anoplops hoffmannsi** Hellm.

Anoplops hoffmannsi Hellmayr, *Bull. B. O. C.* xix. p. 52 (1907.—Borba, Rio Madeira); idem, *Nov. Zool.* xiv. 1907. p. 387. pl. iii. figs. 2, 3 (♂ ♀).

Nos. 40, 126. ♂♂ ad., Calama, 14, 29. vi. 1907.—Wing 79½, 81; tail 53, 54; bill 18 mm.

Nos. 118, 119. ♂♂ imm., Calama, 28. vi. 1907.—Wing 81; tail 52, 54; bill 17½—18 mm.

No. 320. ♂ juv., Calama, 1. viii. 1907.—Wing 78; tail 51; bill 18 mm.

No. —. ♂ ad., Allianca, xi. 1907.—Wing 80½; tail 53; bill 17 mm.

No. 944. ♂ imm., Maruins, 26. vi. 1908.—Wing 79; tail 54; bill 17½ mm.

Nos. 24, 25, 54, 115, 116, 117, 384. ♀♀ ad., imm. et juv., Calama, 12, 17, 28. vi., 12. viii. 1907.—Wing 75—80; tail 50—54; bill 17—18 mm.

Nos. 762, 764. ♀ ad., ♀ juv., Allianca, 8. xi. 1907.—Wing 80, 74; tail 52½, 50; bill 18 mm.

Nos. 894, 941. ♀♀ ad., Maruins, 1, 26. vi. 1908.—Wing 76, 78; tail 52, 53; bill 17 mm.

"Iris greyish brown or brown, feet plumbeous or black, naked space round the eye yellowish green. Bill black, lower mandible grey in the females."

Mr. Hoffmanns now sent us a fine series of this species, which he had discovered on his first expedition to the Rio Madeira in 1906. Adult males have the top of the head and crest deep black, the back very pale (greyish) olive, and the abdomen slate-grey with a slight brownish tinge on flanks and crissum. In immature birds the forehead and crest are more or less mixed with chestnut, and the back as well

* *Ibis* 1894. p. 397. † *Journ. f. Orn.* 1908. p. 512.

as the belly strongly washed with olive- or rufescent brown. Sometimes a few narrow, blackish cross-bands are to be seen here and there on the mantle. The young male (No. 320) is even more decidedly rufescent both above and below, with the forehead and crest uniform dull chestnut.

Young females differ from adult ones by having the upper wing-coverts distinctly rusty brown with the black subapical bands much narrower, and the apical margins less defined as well as of a deeper, more cinnamomeous tinge.

A. hoffmannsi is as yet only known from the right bank of the Rio Madeira. It is strictly congeneric with *A. gymnops* (Ridgw.),* *A. cristata* (Pelz.),† and *A. berlepschi* Snethl.,‡ all of which agree perfectly in structural details, but I do not see how this group can be separated generically from *Anoplops*.

[250. **Anoplops salvini** (Berl.).

Cf. Hellmayr, *Nov. Zool.* xiv. 1907. p. 385 (Humaytha).

Left bank of the Rio Madeira: Humaytha, where Mr. Hoffmanns obtained a large series on his first journey in 1906.]

[251. **Anoplops melanosticta** (Scl. & Salv.).

Pithys melanosticta Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1880. p. 160 (1880.—Sarayaçu, East Ecuador), descr. orig. ♀.

Anoplops melanosticta Hellmayr, *Nov. Zool.* xiv. 1907. p. 386. pl. iii. fig. 1 (= ♂), descr. ♂ ♀ (Humaytha).

Gymnopithys melanosticta Snethlage, *Journ. f. Ornith.* 1908. p. 17 (Cachoeira, Purús).

G. purusianus Snethlage, *Bol. Mus. Goeldi* v. no. 1. p. 59 (1908.—Cachoeira, Purús), descr. ♂.

Left bank of the Rio Madeira: Humaytha. Also obtained at Cachoeira, Rio Purús, on the Rio Juruá, and near Sarayaçu, Eastern Ecuador (type). When Count Berlepsch, some years ago, sent me one of the Purús specimens for comparison with the type in the British Museum, I at once suggested the probability of their being male and female of the same species. This view has been fully confirmed by the sexed specimens which Mr. Hoffmanns, shortly afterwards, forwarded to the Tring Museum. *G. purusianus* is, therefore, a synonym of *A. melanosticta*, the supposed specific characters being those of the adult male.

An immature male from the Rio Juruá (in the Museu Paulista), which I have lately had an opportunity of inspecting, has the belly very nearly as dark sepia-brown as the type from Sarayaçu.]

252. **Rhopoterpe torquata** (Bodd.).

Formicarius torquatus Boddaert, *Tabl. Pl. enl.* p. 43 (1783.—based on "Le Fourmillier, de Cayenne" D'Aubenton, Pl. enl. 700. fig. 1 : Cayenne).

Rhopoterpe torquata Pelzeln, *l.c.* p. 90 (Borba).

Nos. 954, 956, 963, 991. ♂♂ ad. and imm., Marmins, 29, 31. vi., 10. vii. 1908. "Iris brown, feet greyish brown, bill black."—Wing 91—98; tail 39—41; bill 23—24 mm.

* *Rhegmatorhina gymnops* Ridgway, *Proc. U.S. Nat. Mus.* x. 1887. p. 525 (1888.—Diamantina, Santarem, right bank of Tapajóz). Lately rediscovered by Miss Snethlage on the Rio Jamauchim, a tributary of the Tapajóz.

† *Pithys cristata* Pelzeln, *Zur Orn. Bras.* ii. p. 166 (1868.—Rio Vaupé, upper Rio Negro).

‡ *Anoplops berlepschi* Snethlage, *Orn. Monatsber.* xv. p. 162 (1907.—Villa Braga, left bank of the R Tapajóz).

Nos. 955, 959, 960, 961, 971, 989, 990. ♀♀ ad. and imm., Maruins, 29, 30. vi., 5, 10. vii. 1908. "Iris brown, feet grey or greyish brown, bill black."—Wing 91—99; tail 38—42; bill 22¾—24 mm.—"Lives on the ground" (W. H.).

The majority of the skins have the apical bands of the upper wing-coverts rather deeper, more ochraceous buff, than Guianan specimens; in immature birds these edges are much narrower and paler in colour. All examples (of both sexes) have a pure white band across the inner web of the remiges.

R. torquata has rather a wide range in South America east of the Andes. It is common in French and British Guiana; Natterer met with it at Barra do Rio Negro (= Manáos) and near Borba; Buckley obtained specimens at Sarayaçu, in Eastern Ecuador; Linden procured it near Santarem,* and Snethlage near Monte Alegre on the Amazons,† in Villa Braga, Tapajóz, as well as at Alcobaça, Tocantins.† In Western Ecuador, Colombia, and Costa Rica no representative of the genus has as yet been ascertained to occur, though in Nicaragua a very near ally, *R. stictoptera* Salvin,‡ is met with. It differs by having the pileum much duller, rufescent brown with distinct blackish edges to the feathers (instead of nearly uniform deep rufous brown); the upper and under tail-coverts dull rufescent brown (not bright cinnamon-rufous); the rectrices dull olive-brown; the pale band across the inner web of the remiges and the under wing-coverts bright buff (the latter being, in *R. torquata*, banded with black and white), etc., etc. The female, like that of *R. torquata*, has the throat and foreneck ferruginous (not black). There are two ♂♂ and one ♀ from Nicaragua (Matagalpa and Rio Grande) in the Tring Museum.

[253. **Phlegopsis nigromaculata nigromaculata** (Lafr. & D'Orb.).

Cf. Hellmayr, *Nov. Zool.* xiv. 1907. p. 388.

Left bank of the Rio Madeira: Humaytha (Hoffmanns). Not obtained on his second trip.]

254. **Phlegopsis nigromaculata bowmani** Ridgw.

Phlegopsis bowmani (Riker MS.) Ridgway, *Proc. U.S. Nat. Mus.* x. 1887. p. 524 (1888.—Diamantina near Santarem, right bank of Tapajóz); Snethlage, *Journ. f. Orn.* 1908. p. 513 (Villa Braga, left bank of Tapajóz).

P. nigromaculata (nec Lafr. & Orb.) Pelzeln, *l.c.* p. 90 (part.: Borba).

Phlegopsis nigromaculata bowmani Hellmayr, *Nov. Zool.* xiv. 1907. p. 388 (Borba).

Nos. 26, 60, 65, 230, 313, 376, 385. ♂♂ ad., imm., and juv., Calama, 12, 17. vi., 16, 31. vii., 11, 12. viii. 1907. "Iris brown, feet and bill black, naked space round the eye bright red."—Wing 87—94; tail 57—62; bill 20—21 mm.

Nos. 43, 55, 62, 69, 266, 558. ♀♀ ad. and imm., Calama, 14, 17, 18. vi., 24. viii., 17. ix. 1907. Soft parts as above.—Wing 86—90; tail 57—62; bill 19—21 mm.

Nos. 748, 756. ♂♂ ad., Allianca, 6, 7. xi. 1907.—Wing 91, 92; tail 56, 62; bill 20 mm.

Nos. 746, 749. ♀♀ ad., Allianca, 5, 6. xi. 1907.—Wing 84, 85; tail 57, 60; bill 18, 19 mm.

Nos. 976, 994, 1025. ♂♂ ad., ♂ imm., Marnins, 6, 10, 16. vii. 1908.—Wing 91—93; tail 62—63; bill 20 mm.

* Allen, *Bull. Essex Inst.* viii. 1876. p. 80.

† *Journ. f. Orn.* 1907. p. 287; *l.c.* 1908. pp. 513, 533.

‡ *Bull. B. O. C.* i. p. xxxii. (1893.—Santo Domingo, Nicaragua).

No. 1065. ♀ ad., Manicoré (Las Onças), 20. viii. 1908.—Wing 88 ; tail 59 ; bill 19½ mm.

This large series differs from Teffé and Humaytha specimens of *P. n. nigromaculata* in the shape of the black markings on the back, and especially on the upper wing-coverts, as described by me *l.c.* p. 388. While, in most specimens, the ground-colour above is brighter, a fine golden yellowish olive, **some** examples from Calama are hardly to be distinguished on this score. The amount of white on the bend of the wing is much greater than in *P. n. nigromaculata.*

Immature birds have the black spots on the rump less defined and slightly edged with rusty, the black colour below is more restricted, etc. Young birds (*e.g.* No. 376) are characterized by the fluffy greater upper wing-coverts having a broad central streak of black, reaching nearly to the base, bordered on each side by a distinct cinnamon-rufous margin ; the upper parts, too, are rather rufescent brown, and the olive-brown of the flanks is far more extended.

P. n. bowmani replaces the typical form on the right bank of the Rio Madeira, ranging eastward to the Tapajóz, where it apparently occurs on both sides of the river. I have, however, not yet examined specimens from the type-locality (Santarem), and therefore cannot vouch for the correct identification of the present series.

[255. **Phlegopsis erythroptera** (Gould).

Hellmayr, *Nov. Zool.* xiv. 1907. p. 389 (Humaytha).

Left bank of the Rio Madeira : Humaytha (Hoffmanns).]

[256. **Phlegopsis borbae** Hellm.

Hellmayr, *l.c.* p. 389(Borba).

Right bank : Borba (Hoffmanns). It is to be regretted that Mr. Hoffmanns did not obtain additional material of this species, of which the type, an immature male, remains unique in the Tring Museum.]

257. **Formicarius colma** (Bodd.).

Formicarius Colma Boddaert, *Tabl. Pl. enl.* p. 44 (1783.—based on "Le Colma, de Cayenne" D'Aubenton, Pl. enl. 703. fig. 1 = ♀ ad. : Cayenne) ; Hellmayr, *Nov. Zool.* xiv. p. 390 (Humaytha).
F. nigrifrons Gould.

Nos. 912, 975. ♂♂ ad., Maruins, Rio Machados, 7. vi., 6. vii. 1908.—Wing 85, 89 ; tail 53 ; bill 17, 18 mm.

Nos. 291, 705. (♂♂), Calama, 29. vii., S. Isabel, 16. x. 1907.—Wing 85, 87 ; tail 53 ; bill 18 mm.

Nos. 17, 71. ♂ juv., juv., Calama, 10, 18. vi. 1907.
"Iris brown, feet brown, bill black."

The series is typical of *F. colma*, the forehead in the adults being broadly glossy black. Below, the black extends down over the chest, as is usually the case in Upper Amazonian specimens, but cf. my remarks *l.c.* It is surprising to find this species also on the right bank, where we should have expected *F. ruficeps amazonicus* alone to occur. This fact suggests their specific distinctness. On his first expedition in 1906 Mr. Hoffmanns met with *F. colma* near Humaytha, left bank of the Madeira.

[258. **Formicarius ruficeps amazonicus** Hellm.

Cf. *Nov. Zool.* xiv. p. 390 (Borba).

Right bank : Borba (Natterer, Hoffmanns); Engenho do Gama, Rio Guaporé (Natterer).

F. r. amazonicus differs from the preceding species by having the forehead cinnamon-rufous like the crown. Moreover, the female has the throat black, with but a few narrow, concealed white shaft-lines. In *F. colma* ♀ the lores and throat are entirely white.]

259. **Formicarius analis analis** (Lafr. & D'Orb.).

Myothera analis Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* 1837. cl. ii. p. 14 (1837.—Yuracarès, Chiquitos, East Bolivia) ; Pelzeln, *Zur Orn. Bras.* ii. p. 90 (Salto do Girao. Borba).

Formicarius a. analis Hellmayr, *Nov. Zool.* xiv. p. 391 (Humaytha, Borba).

No. 503. ♂ ad., Calama, 1. ix. 1907.—Wing 88; tail 50; bill 21 mm.

No. 622. ♂ ad., S. Isabel, 4. x. 1907.—Wing 90; tail 55 ; bill 21 mm.

Less rufous on the upper parts than specimens from the Rio Purús and Pará, but not otherwise different. About the geographical variation and range of this form and its nearest ally, *F. a. crissalis*, cf. *Nov. Zool.* xiv. pp. 391–2.

260. **Grallaria varia varia** (Bodd.).

Formicarius varius Boddaert, *Tabl. Pl. enl.* p. 44 (1783.—ex D'Aubenton, Pl. enl. 702 : Cayenne).

No. 47. ♂ jun., Calama, 15. vi. 1907.—Wing 114 ; tail 43 ; tars. 43 ; bill 25 mm.

No. 46. ♀ imm., Calama, 15. vi. 1907.—Wing 120; tail 45 ; tars. 43½ ; bill 24 mm.

" Iris dark brown, feet and bill greyish brown."

Both are immature birds with distinct buff apical spots on the median and greater wing-coverts, and with dusky subapical cross-bands on the upper tail-coverts and rectrices. They differ from two other specimens [ex Cayenne and British Guiana (Camacusa)] in the following points : the foreneck is paler, olive-brown (instead of dark chocolate) ; the back lighter and more greenish, with the buff shaft-lines more clearly defined; the upper tail-coverts and rectrices are much brighter, clear cinnamon-rufous (instead of dull rufous brown) ; the axillaries and under wing-coverts paler orange, etc. In other respects they agree closely with the typical Guianan birds. Until adult specimens come to hand it is impossible to say whether the Madeira form is separable from *varia* or not. *G. v. cinereiceps* Hellm.,* from the upper Rio Negro, however, is perfectly distinct by its generally much brighter, ochraceous under parts, clear rufous brown throat and foreneck, etc. The type in the Vienna Museum is still unique.

G. v. varia is new to the Brazilian fauna.

261. **Grallaria brevicauda** (Bodd.).

Formicarius brevicauda Boddaert, *Tabl. Pl. enl.* p. 44 (1783.—ex D'Aubenton, Pl. enl. 706. fig. 1 : Cayenne).

Grallaria brevicauda Pelzeln, *l.c.* p. 91 (Borba).

Nos. 216, 255. ♂ ad., ♂ imm., Calama, 13, 23. vii. 1907.—Wing 89, 85 ; tail 40, 41 ; bill 20½, 19 mm.

* *Verhandl. Zool. Bot. Gesellsch. Wien* liii. p. 218 (1903.—Marabitanas, upper Rio Negro).

No. 324. ♀ jun., Calama, 3. viii. 1907.—Wing 85; tail 38; bill 19 mm.

"Iris brown or blackish, feet pale grey, bill black, below grey."

Specimens from the Rio Madeira (Calama, Borba) and Manáos (= Barra do Rio Negro) are rather more rufescent brown above than a series from Cayenne, British Guiana, and Marabitanas (upper Rio Negro), while others from the Juruá and Javarri Rivers, and from Peru (Chuchurras, Huánuco) have the upper parts paler, more olivaceous. The latter apparently represent *G. brevicauda minor* Tacz.,* though the differences in size do not prove to be constant. A larger series is required to establish the geographical races of *G. brevicauda*.

262. **Grallaria macularia diluta** n. subsp.

[*Pitta macularia* Temminck, *Pl. col.* Genus *Pitta*, 2ème section, esp. 11 (1823.—"Brésil," errore! we substitute *Cayenne*).]

Grallaria macularia berlepschi (nec Hellmayr 1903!) Snethlage, *Orn. Monber.* xv. p. 195 (1907.—Ourèm, Rio Guamá, near Pará).

G. macularia (nec Temminck) Pelzeln, *l.c.* p. 91 (Rio Negro below Thomar).

No. 272. ♀ imm., Calama, 26. vii. 1907. "Iris dark brown, feet plumbeous, bill black, below grey."—Wing 88; tail 36; tars. 36; bill 19 mm.

Similar to *G. m. macularia* of Cayenne and British Guiana, but wing decidedly, tail slightly longer; sides and flanks very much paler, dull ochreous yellow with an olive tinge (instead of deep ochraceous).

Type in the Vienna Museum; No. 16440, ♂ ad., Rio Negro, below Thomar, December 6, 1830. Collected by J. Natterer.—Wing 89; tail 37; tars. 35½; bill 20 mm.

Mus. Goeldi: ♂ ad., Ourèm, Rio Guamá, December 5, 1903. *Type* of *G. m. berlepschi* Snethl.—Wing 90; tail 37; tars. 37; bill 19 mm.

This form had been separated by Miss Snethlage under the preoccupied name *G. m. berlepschi*. I have examined the original example from Ourèm, and found it perfectly identical with Natterer's bird. The female from Calama, although immature, shows the same differences. In a series of nine specimens of *G. m. macularia* from Cayenne and British Guiana the wing varies from 81 to 86, the tail from 29 to 34 mm.; the sides and flanks are invariably deep ochraceous.

I suspect that the birds from Loretoyacu † and Iquitos,‡ North Peru, will also turn out to belong to *G. m. diluta*, unless they be referable to *G. fulviventris* Scl. § The latter species, of which I have seen two specimens, the type and another from Sarayaçu, Eastern Ecuador, in the British Museum, differs from *G. m. macularia* and *G. m. diluta* by lacking the ochreous yellow apical spots to the upper wing-coverts, and the ochreous edges to the outer primaries and the outermost bastard quill; the cheeks and ear-coverts are uniform slaty blackish; the tail is russet-brown (instead of brownish olive), the chest deep ochraceous buff like the sides (instead of white); furthermore, there is no orange rim round the eye nor any trace of the black maxillary stripe, etc. In the amount of black spotting on the breast, as well as in the dark slate-grey cap, it agrees with the *macularia* group.

G. berlepschi Hellm. ‖ resembles *G. fulviventris* in having the chest deep

* *Proc. Zool. Soc. Lond.* 1882. p. 33 (1882.—Yurimaguas, Peru).

† Bartlett, *P. Z. S. Lond.* 1882. p. 374: *G. macularia*.

‡ Sclater, *Cat. Birds Brit. Mus.* xv. p. 324: *G. macularia*.

§ Sclater, *P. Z. S. Lond.* xxvi. 1858. p. 68 (1858.—Rio Napo, Eastern Ecuador).

‖ *Verhandl. Zool. Bot. Gesellsch. Wien* liii. p. 218 (1903.—Engenho do Gama, Mattogrosso).

ochraceous buff like the sides, but may at once be distinguished by the following characters: the top of the head is pale brownish olive like the back (not slate-grey); the cheeks and ear-coverts are light ochreous (instead of slate-blackish); the upper mandible light horn-colour (instead of blackish), etc., etc. Besides the type from Engenho do Gama, Western Mattogrosso, I have examined an adult female and a young male which were obtained at Bom Lugar, Rio Purús, in March 1904, and are actually preserved in the Pará Museum.

263. **Conopophaga melanogaster** Ménétr.

Conopophaga melanogaster Ménétriés, *Mém. Ac. Sci. St. Pétersb.* (6) i. (*Sci. Nat.*) p. 537. tab. 15. fig. 2 (1835.—"près de Cuyaba," locality probably erroneous); Pelzeln, *Zur Ornith. Bras.* ii. p. 92 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 22 (Itaitúba, Rio Tapajóz); Snethlage, *Journ. f. Ornith.* 1908. p. 514 (Villa Braga, Tapajóz).

C. rusbyi Allen, *Bull. Amer. Mus.* ii. p. 96 (1889.—Reyes on the Rio Beni, North Bolivia), descr. ♀.

Nos. 314, 178. ♂ ad., ♂ vix ad., Calama, 8. vi., 1. viii. 1907. "Iris brown, feet bluish black or plumbeous, bill black."—Wing 81, 80; tail 40; tars. 33; bill 18 mm.

No. 613. ♂ imm., S. Isabel, Rio Preto, 3. x. 1907. "Iris dark brown, feet plumbeous, bill black."—Wing 78; tail 42; bill 17 mm.

No. 993. ♂ ad., Maruins, 10. vii. 1908. "Iris dark brown, feet dark grey, bill black."—Wing 80; tail 42; tars. 32; bill 18 mm.

No. 958. ♀ ad., Maruins, 30. vi. 1908. "Iris brown, feet plumbeous, bill black."—Wing 79; tail 42; tars. 32; bill 17½ mm.

Adult males have the lower surface down to the anal region deep black, the flanks and under tail-coverts light rufescent brown mottled with ashy. In immature males the middle of the abdomen is cinereous mixed with whitish, the feathers of the breast show narrow, greyish edges, and the greater upper wing-coverts are dusky tipped with cinnamomeous (instead of being uniform chestnut-rufous).

The female had not been properly described until Dr. J. A. Allen received the type of *C. rusbyi*. His description agrees minutely with the female sent by Mr. Hoffmanns, and three others obtained by Natterer near Borba.

C. melanogaster, by far the finest species of the genus, is only known from the Rio Madeira and its tributaries (Rio Beni, R. Machados), and from the left bank of the Tapajóz (Itaitúba, Villa Braga). The original locality "Cuyaba" requires confirmation.

264. **Conopophaga aurita** (Gm.).

Turdus auritus Gmelin, *Syst. Nat.* 1. ii. p. 827 (1789.—ex D'Aubenton, Pl. enl. 822: Cayenne).

No. 751. ♂ imm., Allianca, 6. xi. 1907. "Iris brown, feet greyish black, bill black."—Wing 69; tail 34; tars. 26; bill 13⅓ mm.

This bird agrees with others from Eastern Ecuador and Western Brazil (Rio Javarri) in having the middle of the belly buffy, and the sides to a large extent decidedly rufescent brown. Cf. Ménégaux & Hellmayr, *Bull. Mus. Paris* xi. No. 6 (published January 1906) p. 374.

I expect that the birds from Amazonia (Eastern Ecuador, Northern Peru, and North Brazil) will prove to be separable from the typical race, but I should like to examine a better series from Cayenne before proposing a name.

265. **Corythopis torquata anthoïdes** (Puch.).

[*Corythopis torquata* Tschudi, *Arch. Naturg.* 10. i. p. 279 (1844.—Peru).]
Muscicapa anthoïdes Pucheran, *Arch. Mus. Paris* vii. p. 334 (1855.—Cayenne).
Corythopis anthoides Pelzeln, *l.c.* p. 92 (Borba).
C. t. anthoides Hellmayr, *Nov. Zool.* xiv. 1907. p. 392 (Humaytha).

No. 442. ♂ ad., Calama, 13. viii. 1907.—Wing 69 ; tail 52 ; bill 14 mm.
No. 560. ♀ ad., Jamarysinho, 17. ix. 1907.—Wing —; tail 50 ; bill 14 mm.
No. 934. ♂ ad., Maruins, 19. vi. 1908.—Wing 66½ ; tail 53½ ; bill 14¾ mm.
No. 921. (♀) ad., Maruins, 10. vi. 1908.—Wing 64 ; tail 50 ; bill 14 mm.

" Iris brown or greyish brown, feet grey, bill black, lower mandible yellowish grey or flesh-colour."

All the specimens have the top of the head warm brown like the back, **not** slate-grey. Cf. Berlepsch & Hellmayr, *Journ. f. Ornith.* 1905. p. 17.

According to Mr. Hoffmanns, this bird frequents thickets in the primeval forest and keeps near the ground.

266. **Liosceles thoracicus thoracicus** (Scl.).

Pteroptochus thoracicus Sclater, *Proc. Zool. Soc. Lond.*, Nov. 1864. p. 609. pl. xxxviii. (1865.—"Salto do Girao, on the left bank of the Rio Madeira") ; Pelzeln, *Zur Orn. Bras.* i. 1867. p. 46 (Salto do Girao, Borba).

No. 774. ♂ ad., Allianca, 9. xi. 1907.—Wing 73 ; tail 80 ; tars. 26 ; bill 17 mm.
No. 214. ♂ imm., Calama, 13. vii. 1907.—Wing 72 ; tail 78 ; tars. 26½ ; bill 16½ mm.
Nos. 215, 803. ♀ ♀ fere ad., Calama, 13. vii. 1907 ; Allianca, 27. xi. 1907.—Wing 73 ; tail 76, 81 ; tars. 26 ; bill 17 mm.

" Iris greyish brown or brown, feet brown, bill black, lower mandible yellowish grey."

The adult male has the pileum and nape smoky grey ; the back russet-brown, the mantle paler and more olive ; the innermost flanks and the under tail-coverts washed with rufescent brown. In immature birds the upper parts are of a deeper, more chestnut brown, the pileum and nape tinged with brownish ; the sides of breast and abdomen are more strongly suffused with rusty brown, and the feathers of the throat show more or less distinct dusky edges. Moreover, the young male (No. 214) has the rump and upper tail-coverts conspicuously barred or streaked with black, and the edges to the upper wing-coverts of a brighter, more cinnamomeous tinge.

All of the specimens have the foreneck extensively sulphur-yellow with a number of dull orange-red spots. The rectrices are blackish, edged with dull rufous brown edges along the basal half of the outer web. The upper mandible is black, the lower one, with the exception of the tomiae, horny white.

L. t. thoracicus appears to inhabit both banks of the Rio Madeira. Natterer met with it at Salto do Girao, on the left side, as well as at Borba, on the right bank, where Mr. Hoffmanns also obtained his examples. No other specimens are on record. A nearly allied form, *L. thoracicus erithacus* Scl.,* however, occurs in Eastern Ecuador, where it was discovered by the late C. Buckley. It merely differs by its rather stronger bill, and by lacking the sulphur-yellow tinge on the foreneck, the latter being spotted with dull orange-red on a **pure white** ground.

* *Liosceles erithacus* Sclater, *Cat. Birds Brit. Mus.* xv. p. 315 (1890.—Sarayaçu, Eastern Ecuador).

267. **Threnetes leucurus** (Linn.).

Trochilus leucurus Linnaeus, *Syst. Nat.* xii. 1. p. 190 (1766.—based on Edwards, *Glean. Nat. Hist.* p. 99. pl. 256. fig. sup. : Surinam).
Threnetes leucurus Hellmayr, *Nov. Zool.* xiv. p. 392 (Humaytha, Paraiso).

No. 9. ♂ vix ad., Calama, 9. vi. 1907.—Wing 63 ; tail 37 ; bill 28 mm.

Nos. 866, 879, 880. ♂♂ ad., Marmellos, 25, 29. xii. 1907.—Wing 61—62 ; tail 35—36 ; bill 30 mm.

No. 61. ♀ imm., Calama, 17. vi. 1907.—Wing 56 ; tail 33 mm.

Nos. 842, 860. ♀♀ ad., Marmellos, 21, 24. xii. 1907.—Wing 55, 56 ; tail 32, 32½ ; bill 30 mm.

"Iris black, feet greyish pink, bill black, lower mandible greyish with dusky tip."

The light portions of the outer tail-feathers are **pure white** as in topotypical Surinam examples, from which I am unable to separate the Madeira series. *T. leucurus*, besides occurring in French, Dutch, and British Guiana, is also widely distributed in Amazonia. Mr. Hoffmanns obtained it at various places on the Rio Madeira, as well as near Teffé, Rio Solimoëns (cf. *Nov. Zool.* xiv. p. 74).

268. **Glaucis hirsuta** (Gm.).

Trochilus hirsutus Gmelin, *Syst. Nat.* 1. i. p. 490 (1788.—ex Brisson : ex Marcgrave : "Brasilia," sc. Eastern Brazil).
Glaucis hirsuta Hellmayr, *l.c.* p. 392 (Humaytha, Borba).

Nos. 758, 29. ♂ ad., juv., Calama, 12. vi., 10. ix. 1907.—♂ ad. : wing 60 ; tail 39 mm.

Nos. 649, 651, 697. ♂♂ ad., S. Isabel, 9, 15, 16. x. 1907.—Wing 63 ; tail 41—43 mm.

No. 651. ♀ ad., S. Isabel, 9. x. 1907.

Nos. 840, 841, 861, 862, 864, 865, 867, 869. ♂♂ ad. et imm., Marmellos, 21, 25, 26. xii. 1907.

Nos. 839, 861, 876. ♀♀ ad., ♀ juv., Marmellos, 21, 24, 27. xii. 1907.

The females are dull cinnamomeous below, with the middle of the belly white, while the males are much darker and strongly suffused with grey.

269. **Phoethornis ochraceiventris** Hellm.

Phoethornis affinis ochraceiventris Hellmayr, *Bull. B. O. C.* xix. p. 54 (1907.—Humaytha).
P. ochraceiventris Hellmayr, *Nov. Zool.* xiv. p. 393 (Humaytha, Teffé).

No. 7. ♀ ad., Calama, 9. vi. 1907. "Iris blackish, feet greyish brown, bill black, below red."—Wing 59 ; rectr. med. 71, submed. 40, ext. 28 ; bill 36 mm.

Compared with the type, this bird is smaller with a shorter bill, and the colour of the foreneck and chest duller, brownish buff, the abdomen and under tail-coverts alone being bright ochraceous buff. The edges to the outer rectrices are, however, clear cinnamon as in the Teffé and Humaytha specimens.

The species ranges from the Madeira Valley to Teffé, on the Solimoëns.

270. **Phoethornis hispidus hispidus** (Gould).

Trochilus (?) *hispidus* Gould, *Proc. Zool. Soc. Lond.* xiv. 1846. p. 90 (1846.—"Peru?" errore ! the type was obtained in Bolivia by Bridges ; cf. *Monogr. Trochil.* i. pl. 22).
Phoethornis hispidus Hellmayr, *Nov. Zool.* xiv. p. 394 (Humaytha, Borba).

Nos. 434, 628. ♂ ad., ♂ imm., Calama, 20. viii. 1907 ; S. Isabel, Rio Preto, 5. x. 1907.—Wing 59 ; tail 64, 61 ; bill 32, 33 mm.

Nos. 191, 242, 663, 664, 673. ♀ ♀ ad., Calama, 8, 19. vii. 1907; S. Isabel, 10, 11. x. 1907.—Wing 52—55; tail 60—64; bill 30—32 mm.

Nos. 767, 807. ♀ ♀ ad., Allianca, 8, 30. xi. 1907.—Wing 54, 53; bill 30 mm.

No. 852. ♂ ad., Marmellos, 23. xii. 1907.—Wing 57; tail 64; bill 32 mm.

Nos. 825, 831, 843, 852, 878. ♀ ♀ ad. et imm., Marmellos, 18, 19, 21, 23, 28. xii. 1907.—Wing 52—53; tail 57—61; bill 30—31 mm.

"Iris and feet black, bill black, below yellowish green."

The birds from the Rio Madeira are perfectly similar to topotypical specimens from Bolivia (Salinas, Beni; Guarayos) and others from Peru (Samiria, Sarayaçu). The edges to the upper tail-coverts and feathers of the rump are hoary or whitish in the adults, while they are decidedly buff in the northern race, *P. hispidus villosus* Lawr.,* occurring in Bogotá collections, on the Upper Orinoco (Nericagua), etc.

271. **Phoethornis philippii** (Bourc.).

Trochilus philippii Bourcier, *Ann. Soc. Agric. Lyon* x. p. 623 (1847.—"Bolivia").
Phoethornis philippii Hellmayr, *Nov. Zool.* xiv. p. 394 (Humaytha, Borba).

No. 237. ♂ ad., Calama, 18. vii. 1907.—Wing 62; med. rectr. 64, submed. 38, ext. 30; bill 32 mm.

No. 235. ♀ imm., Calama, 18. vii. 1907.—Wing 58; med. rectr. 66, submed. 36, ext. 25; bill 33 mm.

No. 542. Adult, Jamarysinho, 13. ix. 1907.—Wing 64; med. rectr. 67, submed. 38, ext. 28; bill 35½ mm.

No. 768. ♀ ad., Allianca, 8. xi. 1907.—Wing 58; med. rectr. 64; bill 32 mm.

Nos. (not numbered). ♂ ad., ♂ vix ad., Calama, 10, 12. ix. 1908.—Wing 63, 59; med. rectr. 64, 60, submed. 38, 36, ext. 29, 25; bill 33, 31 mm.

"Iris brown or black, feet black, bill black, lower mandible (except tip) red or yellowish red."

The immature female (No. 235) has the bill slightly decurved. To the range given in *Nov. Zool.* xiv. p. 395 the above localities are to be added, as also Cachoeira, Rio Purús, whence Miss Snethlage† has lately recorded a single specimen. *P. philippii*, until recently a very rare bird in collections, appears to be widely distributed in Brazilian Amazonia, from the Solimoëns to the Madeira Valley.

272. **Phoethornis ruber ruber** (Linn.).

Trochilus ruber Linnaeus, *Syst. Nat.* x. p. 121 (1758.—ex Edwards, *Ornith.* i. p. 32. pl. 32. fig. sup.: Surinam); cf. *Nov. Zool.* xiii. p. 375.
P. ruber ruber Hellmayr, *Nov. Zool.* xiv. p. 395 (Humaytha).
Phaetornis Davidianus Pelzeln, *l.c.* p. 27 (Borba).

No. 8. Juv., Calama, 9. vi. 1907.—Wing 32; tail 32; bill 20 mm.

No. 183. ♀, Calama, 7. vii. 1907.—Wing 33; tail 32; bill 21 mm.

No. 926. ♂ juv., Maruins, 12. vi. 1908.—Wing 33; tail 34; bill 22 mm.

"Iris black, feet yellow, bill black, lower mandible yellowish green, tip (8 to 9 mm.) black."

The three specimens are in the "*eremita*" plumage, with pointed rectrices

* *Phaethornis villosus* Lawrence, *Ann. Lyc. Nat. Hist. N. York* vi. p. 258 (1858.—Ecuador; Santá Fé de Bogotá).

† *Journ. f. Orn.* 1908. p. 18.

with long, cinnamon-rufous tips. They agree perfectly with Cayenne skins in corresponding plumage.

273. **Campylopterus obscurus aequatorialis** Gould.

[*Campylopterus obscurus* Gould, *Proc. Zool. Soc. Lond.* xvi. 1848. p. 13 (1848.—"River Amazon," sc. Pará).]

C. aequatorialis Gould, *Introd. Trochilid.* p. 54 (1861.—"neighbourhood of Quito").

Nos. 38, 135. ♂♂ ad., Calama, 13, 30. vi. 1907.—Wing 76, 74; tail 50; bill 26½, 27⅓ mm.

Nos. 623, 667. ♂ ad., ♂ imm., S. Isabel, 4, 10. x. 1907.—Wing 77, 73; tail 49; bill 26, 25 mm.

No. 804. ♂ ad., Allianca, 27. xi. 1907.—Wing 74; tail 50½; bill 24½ mm.

No. 881. ♂ imm., Marmellos, 29. xii. 1907.—Wing 77; tail 50; bill 27 mm.

No. 979. ♂ ad., Maruins, 9. vii. 1908.—Wing 75; tail 51; bill 27⅓ mm.

"Iris, feet, and bill black, base of lower mandible red."

The Marmellos bird and the immature male from S. Isabel are practically identical with Peruvian and Napo examples. The others have the apical spots to the outer rectrices more greyish, thereby approaching the eastern *C. o. obscurus* (cf. *Nov. Zool.* xiii. p. 375), but the pale tips are more extended, especially on the penultimate and third pair, than in the latter race.

C. o. aequatorialis is new to the Brazilian fauna. Its occurrence on the banks of the Rio Madeira is not surprising, for it was for a long time known as an inhabitant of North-Eastern Bolivia. The Tring Museum possesses a series obtained by Mr. Maxwell Stuart at Guanay and San Augustin, on the Upper Beni, and, in the British Museum, there is a couple from Mapiri, Buckley coll.

[274. **Eupetomena macroura macroura** (Gm.).

Cf. Hellmayr, *Nov. Zool.* xiv. p. 395 (Humaytha).

Humaytha (Hoffmanns).]

[275. **Florisuga mellivora** (Linn.).

Cf. Pelzeln, *l.c.* p. 30 (Borba); Hellmayr, *l.c.* p. 395 (Humaytha, Borba).

Humaytha, left bank (Hoffmanns); Borba, right bank (Natterer, Hoffmanns).]

[276. **Agyrtria fimbriata fimbriata** (Gm.).

Trochilus fimbriatus Gmelin, *Syst. Nat.* 1. i. p. 493 (1788.—ex Brisson, *Orn.* iii. p. 706. No. 7. pl. 36. fig. 2: Cayenne); cf. Berlepsch, *Nov. Zool.* xv. 1908. p. 266.

Agyrtria albiventris albiventris (Less.); Hellmayr, *l.c.* p. 395 (Borba).

Right bank: Borba (Hoffmanns).

This is the most southerly record for the species. Farther south, on the banks of the Rio Guaporé (Engenho do Gama), Natterer met with *A. fimbriata nigricauda* (Ell.). See *Nov. Zool.* xv. 1908. pp. 74–5.]

[277. **Hylocharis sapphirina sapphirina** (Gm.).

Cf. Hellmayr, *Nov. Zool.* xiv. p. 395 (Borba).]

Right bank: Borba (Hoffmanns).]

278. **Chlorestes notatus** (Reich).

Trochilus notatus Reich, *Magazin des Thierreichs* (Erlangen) 1. iii. p. 129 (1795.—based on Richard & Bernard, *Cat. Ois. env. de Cayenne par M. le Blond* in *Act. Soc. Hist. Nat. Paris* 1. i. 1792. p. 117. No. 48 : Cayenne).
Hylocharis coerulea Pelzeln, *l.c.* p. 33 (Borba).
Chlorestes caeruleus Hellmayr, *l.c.* p. 396 (Humaytha).

Nos. 686, 701. ♂♂ ad., S. Isabel, 16. x., 12. x. 1907. –Wing 49—50; tail 31; bill 16, 17 mm.

Nos. 665, 666, 672, 699, 702. ♂♂ juv., ♀♀, S. Isabel, 10, 11, 15, 16. x. 1907.

Nos. 817, 818, 845, 868. ♂♂ ad., Marmellos, 16, 17, 21, 25. xii. 1907.—Wing 49—50; tail 29—30 mm.

Nos. 815, 823. ♂ juv., ♀, Marmellos, 16, 18. xii. 1908.

"Iris and feet black, bill black, below red or greyish red."

279. **Thalurania balzani** E. Sim.

Thalurania balzani E. Simon, *Nov. Zool.* iii. p. 259 (1896.—"Yungas de Bolivie"); Hellmayr, *l.c.* xiv. 1907. p. 396 (Borba); Snethlage, *Journ. f. Ornith.* 1908. p. 514 (Campinho, Villa Braga : left bank of Tapajóz).
T. furcata furcatoides (nec Gould) Hellmayr, *Nov. Zool.* xiv. 1907. p. 24 (Itaitúba, left bank of Tapajóz).

No. 107. ♂ perad., Calama, 25. vi. 1907.—Wing 52; tail 32; bill 19½ mm.

Nos. 131, 138, 459, 471, 472. ♂♂ fere ad. et imm., Calama, 29, 30. vi., 26, 27. viii. 1907.—Wing 51—53; tail 31—32; bill 18—20 mm.

Nos. 650, 674, 698. ♂ vix ad., ♂♂ imm., S. Isabel, Rio Preto, 9, 11, 15. x. 1907.—Wing 50—53; tail 31—32; bill 20 mm.

No. 450. ♂ juv., Calama, 26. viii. 1907.—Wing 54; tail 31; bill 16½ mm.

No. 931. ♂ ad., Maruins, R. Machados, 14. vi. 1908.—Wing 53; tail 32; bill 20½ mm.

Nos. 15, 692. ♀♀ ad., Calama, S. Isabel, 10. vi., 13. x. 1907.—Wing 49, 51; tail 28; bill 19, 20 mm.

Nos. 916, 957. ♀♀ ad., Maruins, 9, 26. vi. 1908.—Wing 49, 50; tail 29, 30; bill 20 mm.

No. 808. ♀ ad., Allianca, 30. xi. 1907.—Wing 49; tail 28½; bill 19 mm.

"Iris, bill, and feet black."

Identical with specimens from Eastern Bolivia (Beni River). The males have the under tail-coverts pure white, and in fully adult birds the interscapular region when viewed from in front looks very dark, almost blackish. The form found on the left bank of the Rio Tapajóz is likewise *T. balzani*. The females taken at Itaitúba by Mr. Hoffmanns were erroneously determined as *T. f. furcatoides*, but Miss Snethlage has lately obtained, in the same region, an adult male. *T. simoni* Hellm., from Teffé, Rio Solimoëns, while agreeing with *T. balzani* in the small size, in the dark coloration of the interscapulium, etc., differs at a glance by having the under tail-coverts steel-black with white edges. Cf. *Nov. Zool.* xiv. 1907. pp. 77–8.

The range of *T. balzani* is as follows :—

Eastern Bolivia : Salinas, Reyes (Maxwell Stuart; Tring Museum). Central Brazil, Amazonia : Calama, S. Isabel, Borba, Allianca, Rio Madeira; Maruins, Rio Machados (Hoffmanns); Itaitúba (Hoffmanns), Campinho, Villa Braga (Snethlage), left bank of Rio Tapajóz.

[280. **Anthracothorax nigricollis nigricollis** (Vieill.).

Cf. Hellmayr, *Nov. Zool.* xiv. p. 396 (Humaytha).

Humaytha (Hoffmanns).]

281. **Psilomycter theresiae theresiae** (Da Silva).

Ornismya theresiae Da Silva, *Minerva Brazil.* 1º Nov. 1843. p. 2 (1843.—Pará) ; cf. H. & R. Ihering, *As Aves do Brazil* p. 426.
Psilomycter t. theresiae Hellmayr, *Nov. Zool.* xiv. p. 396 (Humaytha, Borba).

Nos. 675, 700. ♀ imm., imm. (not sexed), S. Isabel, Rio Preto, 11, 25. x. 1907.—Wing 53½ ; tail 31, 32½ ; bill 19, 20 mm.

"Iris and feet black, bill black, base of lower mandible red."

The birds from the Rio Madeira agree with the typical race described from Pará.

P. t. theresiae (Da Silva) inhabits Cayenne, Surinam, British Guiana, the whole of Lower Amazonia from Pará west to Manáos (Barro do Rio Negro), and the banks of the Madeira and Tapajóz Rivers. Natterer's series from Manáos agrees in every respect with Guianan examples.

P. t. leucorrhous (Scl. & Salv.)* replaces it on the upper Rio Negro (Cobati [Wallace], Marabitanas [Natterer]), and in Eastern Peru (Xeberos, etc.).

282. **Heliothrix auritus auriculatus** (Nordm.).

[*Trochilus auritus* Gmelin, *Syst. Nat.* 1. i. p. 493 (1783.—ex Brisson : Cayenne).]
T. auriculatus Nordmann in Erman's *Reise, Naturhist. Atlas* p. 5. pl. ii. figs. 1, 2 = ♂ ♀ (1835.—Rio de Janeiro ; cf. *op. cit.* p. v.).

No. 132. ♂ vix ad., Calama, 29. vii. 1907. "Iris, feet, and bill black."—Wing 67 ; rectr. med. 48, ext. 35 ; bill 18½ mm.

Agrees with South Brazilian skins except that the bill is very slightly longer. The median portion of the throat and foreneck is white, while a small chin-spot and a broad stripe along each side of the throat are glittering golden green. The bird still retains the narrow pointed tail-feathers of the juvenile plumage, with a distinct bluish black bar near the base of the three outer pairs, but in other respects it is adult.

New to the fauna of the Rio Madeira. Kalinowski had obtained it in the Chanchamayo district of Central Peru.†

[283. **Popelairea langsdoffi melanosternon** (Gould) [?].

[*Trochilus Langsdoffi* (sic) Vieillot, *Tabl. enc. méth.* ii. p. 574 (1822.—"Brésil" ; we fix *Rio de Janeiro* as type locality).]
Gouldia melanosternon Gould, *Ann. Mag. Nat. Hist.* (4) i. p. 328 (1868.—Peru).
G. Langsdorfii Pelzeln, *l.c.* p. 32 (Ribeirão).

Rio Madeira : Ribeirão (Natterer).

Although the specimen does not any longer exist in the Vienna Museum, the birds of the Madeira district are more probably referable to the Upper Amazonian race than to the typical form, which appears to be restricted to East Brazil (Bahia to S. Paulo).]

* *Polytmus leucorrhous* Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1867. p. 584 (1867.—Cobati, Rio Negro).

† Berlepsch & Stolzmann, *Proc. Zool. Soc. Lond.* 1902. p. 28.

[284. **Chaetura cinereiventris sclateri** Pelz.

[*Chaetura cinereiventris* Sclater, *Cat. Coll. Amer. Birds* p. 233 (1862.—ex Wied and Burmeister: Bahia).]

C. Sclateri Pelzeln, *Zur Orn. Bras.* i. pp. 16, 56 (1867.—Borba).

Borba (Natterer). Widely distributed in Upper Amazonia, but not recorded from any locality east of the Madeira Valley. Cf. my account in *Verhandl. Ornith. Ges. Bayern* viii. 1908. p. 157.]

[285. **Chaetura spinicauda spinicauda** (Temm.).

Cypselus spinicaudus Temminck, *Tabl. méth. Pl. col.* p. 57 (1839.—based on D'Aubenton, Pl. enl. 726. fig. 1 : Cayenne).

Chaetura cinereiventris (nec Sclater) Pelzeln, *l.c.* p. 16 (part. : Borba, Pará).

Right bank : Borba (Natterer).

This species is chiefly found in the Guianas, but in Eastern Brazil it ranges as far south as Bahia. Cf. Hellmayr, *Verhandl. Ornith. Gesellsch. Bayern* viii. 1908. pp. 158–60.]

[286. **Claudia squamata** (Cass.).

Cypselus squamatus Cassin, *Proc. Acad. N. Sci. Philad.* vi. p. 369 (1853.—British Guiana) ; Pelzeln, *l.c.* p. 16 (Borba).

Right bank : Borba (Natterer).]

287. **Chordeiles rupestris** (Spix).

Caprimulgus rupestris Spix, *Av. Bras.* ii. p. 2. pl. ii. (1825.—"in insulis petrosis fl. *Nigri*") ; Pelzeln, *l.c.* p. 14 (Rio Guaporé, das Pedras, Rio Mamoré, etc.).

Nos. 544, 598, —. ♂♂ ad., Jamarysinho, 26, 27. ix. 1907.—Wing 160—172 ; tail 88—99 ; bill 7—8 mm.

Nos. 595, 596, 599. ♀♀ ad., Jamarysinho, 26, 27. ix. 1907.—Wing 155—166 ; tail 87, 89, 100 ; bill 7—7½ mm.

"Iris brown, feet and bill black."

The males agree perfectly with the typical examples in the Munich Museum. The females differ in the decidedly more rufescent buff ground-colour of the upper parts, and by having the white portion of the outer rectrices more or less blotched and banded with black. Peruvian skins are somewhat darker above, but the difference is insignificant.

According to the observations of Mr. Hoffmanns, these birds breed in large numbers on the sandy beach of the river ("Pleya"). Two clutches consisting each of two eggs were taken on September 27, 1907. They are thickly marbled and spotted with pale brown and lavender-grey on a pale buff or greyish white ground, and measure 26 × 20, 27 × 20, 28 × 19½ mm. The egg is well figured in *Cat. Eggs Brit. Mus.* iii. pl. i. fig. 5.

288. **Nyctiprogne leucopyga** (Spix).

Caprimulgus leucopygus Spix, *Av. Bras.* ii. p. 3. pl. iii. fig. 2 (1825.—"ad litora sylvestria fl. Amazonum").

Lurocalis leucopyga Pelzeln, *l.c.* p. 14 (Cidade de Mattogrosso).

No. 113. ♂ ad., Calama, 26. vi. 1907. "Iris dark brown, feet dusky grey, bill black."—Wing 135 ; tail 95 ; bill 5 mm.

A perfectly adult male with the upper parts nearly uniform blackish, the

rufescent buff markings being reduced to minute dots and some obsolete wavy lines. Natterer's female from Mattogrosso is rather large (wing 150; tail 105 mm.), but in coloration it does not differ from Venezuelan and Rio Negro examples.

289. **Podager nacunda** (Vieill.).

Caprimulgus nacunda **Vieillot, *Nouv. Dict.* x. p. 240 (1817.—ex Azara : Paraguay).**
Podager nacunda **Pelzeln, *l.c.* p. 15 (Borba).**

No. 887. ♀ ad., Calama, 18. iv. 1908. "Iris dark brown, feet grey, bill greyish black."

290. **Lurocalis semitorquatus nattereri** (Temm.).

[*Caprimulgus semitorquatus* **Gmelin, *Syst. Nat.* 1. ii. p. 1031 (1789.—ex D'Aubenton. Pl. enl. 734 : Cayenne).]**
C. nattereri **Temminck, *Pl. col.* livr. 18. pl. 107 (1822.—"Brésil," coll. Natterer—we fix *Ypanema*, S. Paulo, as type locality).**

No. 81. ♀ ad., Calama, 20. vi. 1907. "Iris black, feet yellowish grey, bill black."

This form is much larger than *L. s. semitorquatus*, from North-Eastern South America, but does not differ in coloration. It ranges from Pará and Manáos southward to S. Paulo and Paraná (Curitiba), while typical *L. s. semitorquatus* dwells in the Guianas, in the island of Trinidad, and on the upper Rio Negro (Rio Içanna).

The subjoined table of measurements shows the differences in size :—

(*a*) *L. s. semitorquatus* (Gm.).

	Wing.	Tail.
One adult, Cayenne	177	92 mm.
One ♂ ad., Chaguanas, Trinidad	174	84 „
Two ♀♀ ad., Chaguanas, Trinidad	178	77, 83 „
One ♀ ad., Rio Içanna, Natterer coll., Vienna Mus.	178	82 „

(*b*) *L. s. nattereri* (Temm.).

	Wing.	Tail.
One adult male from S. Paulo (Ypanema)	202	95 mm.
Five adult females from S. Paulo	195—215	88—100 mm.
Three adults from Rio de Janeiro	198—215	89—95 „
One adult from Bahia	196	84 „
One female from Calama, Rio Madeira	187	93 „
One adult male from Pará	193	87 „
One female from Pará	183	82 „
One adult female from Manáos	202	91 „

N.B.—The Manáos specimen is fully as large as others from S. Paulo, while the birds from Bahia, Calama, and Pará average rather smaller.

[291. **Hydropsalis torquata** (Gm.).

Cf. Hellmayr, *Nor. Zool.* xiv. p. 396 (Humaytha).

Left bank : Humaytha (Hoffmanns).

Natterer obtained this South Brazilian species, according to Von Pelzeln,*

* *Orn. Bras.* i. p. 11.

near Santarem, a locality still farther to the north than Humaytha. On the banks of the Rio Guaporé occurs the very distinct *H. furcifer* (Vieill.) (*pallescens* Pelz.).]

[292. **Hydropsalis climacocercus** (Tsch.).

Caprimulgus climacocercus Tschudi, *Arch. Naturg.* 10. i. p. 269 (1844.—Peru).
Hydropsalis trifurcata Pelzeln, *l.c.* p. 11 (Bananeira, Borba).

Rio Madeira : Bananeira, Borba (Natterer).
Widely distributed in Amazonia.]

293. **Nyctidromus albicollis albicollis** (Gm.).

Caprimulgus albicollis Gmelin, *Syst. Nat.* 1. ii. p. 1030 (1789.—ex Latham : Cayenne).
Nyctidromus guianensis Pelzeln, *l.c.* p. 13 (Borba).

Nos. 300, 463. ♂♂ ad., Calama, 30. vii., 26. viii. 1907.—Wing 152, 150 ; tail 150, 147 mm.

Nos. 375, 733. ♀♀ ad., Calama, 11. viii., 29. x. 1907.—Wing 150—152 ; tail 150 mm.

No. 489. ♀ imm., Calama, 30. viii. 1907.—Wing 141 ; tail 126 mm.

"Iris dark brown, feet grey, bill dark grey or black."

Agreeing with specimens from Cayenne, Venezuela, and Trinidad.

Mr. Hoffmanns reports that this bird lays a single egg on the ground amidst dry leaves and grasses. One egg, taken at Calama, October 14, 1907, is pinkish buff, indistinctly spotted with pale reddish brown and underlying lavender-grey. Another egg is much brighter pink, with the reddish spots more numerous, but with very little lavender-grey. They measure 29·75 × 20·50 and 30 × 21·50 mm.

294. **Caprimulgus ocellatus** Tsch.

Caprimulgus ocellatus Tschudi, *Arch. Naturg.* 10. i. p. 268 (1844.—Peru).

No. 575. ♀, Jamarysinho, 20. ix. 1907. "Iris black, feet greyish brown, bill black."—Wing 120 ; tail 115 ; bill 9½ mm.

Compared with several skins from Bahia and Ypanema (S. Paulo) this bird is of a brighter rufous brown, but the markings are the same. Topotypical Peruvian specimens are not available for examination.

C. rosenbergi Hart.,* from Western Colombia and N.W. Ecuador, is very nearly allied to *C. ocellatus*, and, like it, has no white cross-bar on the remiges. However, the general colour is blackish, the white apical margin to the rectrices is much narrower, there are no cinnamomeous marginal spots on the outer web of the primaries, while, on the other hand, each of the innermost greater wing-coverts has a large, rounded white apical spot.

[295. **Caprimulgus maculicaudus** (Lawr.).

Cf. Hellmayr, *Nov. Zool.* xiv. p. 397 (Humaytha).

Left bank : Humaytha (Hoffmanns).

A single adult female was taken in September 1906. In the paper quoted above I have given some notes about the distribution of the species.]

* *Bull. Brit. Orn. Cl.* v. p. x. (1895.—Rio Dagua, W. Colombia).

[296. **Caprimulgus parvulus** Gould.

Caprimulgus parvulus Gould, *Proc. Zool. Soc. Lond.* v. 1837. p. 22 (1837.—no locality, Darwin coll.; the type was from the "Paraná, near Santa Fé"; cf. *Voyage of the Beagle, Birds*, p. 37).
Stenopsis parvula Pelzeln, *l.c.* p. 12 (Borba).

Right bank : Borba (Natterer).

Natterer's female, August 3, 1830, agrees in every respect with typical examples from near Ocampo, Paraná, Argentine.

C. parvulus has a wide range in South America. Natterer obtained it at numerous localities in Brazil, and H. H. Smith near Chapada, Mattogrosso. Count Berlepsch possesses an adult male, picked out from a large lot of Bahia trade skins, and a female taken by Mr. W. A. Schulz at Paricatúba, Lower Amazons, etc., etc.]

297. **Caprimulgus nigrescens** Cab.

Caprimulgus nigrescens Cabanis in Schomburgk, *Reisen Brit. Guiana* iii. p. 710 (1848.—British Guiana).
Stenopsis nigrescens Pelzeln, *l.c.* p. 12 (Borba).

No. 778. ♀ ad., Allianca, 12. xi. 1907. "Iris brown, feet and bill black."—Wing 142 ; tail 100 ; bill 11 mm.

This bird, as well as others from the Rio Madeira, secured by Natterer, agree perfectly with a series from British Guiana and Venezuela (Caura).

298. **Chloronerpes flavigula** (Bodd.).

Picus flavigula Boddaert, *Tabl. Pl. enl.* p. 49 (1783.—ex D'Aubenton, Pl. enl. 784 : Cayenne).
Chloronerpes flavigula Pelzeln, *l.c.* p. 244 (Borba).

No. 433. ♂ imm., Calama, 20. viii. 1907.—Wing 120 ; tail 71 ; bill 23 mm.
No. 1048. ♀ ad., Maruins, 22. vii. 1908.—Wing 124 ; tail 73 ; bill 20½ mm.
"Iris brown, feet greenish grey, bill black, below grey."

In specimens from the Rio Madeira the whitish spots on the foreneck and chest appear generally more bar-like (less heart-shaped) than in Cayenne and Venezuelan (Caura) examples, but this is not quite constant.

299. **Chloronerpes chrysochloros paraensis** Snethl.

[*Picus chrysochloros* Vieillot, *Nouv. Dict.* xxvi. p. 98 (1818.—ex Azara : Paraguay).]
Chloronerpes paraensis Snethlage, *Orn. Monber.* xv. p. 163 (1907.—Murucutú, near Pará).

No. — (♂) ad., Calama (no date).—Wing 139 ; tail 80 ; bill 25½ mm.
No. 330. ♀ ad., Calama, 3. viii. 1907.—Wing 137 ; tail 75 ; bill 25 mm.
"Iris dingy yellow, feet greyish green, bill black."

The male has the throat paler yellow than the type from Pará, while the female, in this respect, agrees with the latter.

C. c. paraensis is closely allied to *C. c. capistratus* (Malh.),* from British Guiana and the Rio Negro district, but differs by having the throat uniform yellow (not banded with olive-green), the ground-colour of the under parts more yellowish, the edges to the median rectrices broader and more intensely olive-green, and by lacking the crimson mystacal stripe in the male sex. It is thus somewhat intermediate between *C. c. capistratus* and the southern *C. c. chrysochloros*. The latter, while agreeing with *C. c. paraensis* in the uniform throat, has the under parts

* *Chrysopicus capistratus* Malherbe (ex Natterer MS.). *Monogr. Picid.* ii. p. 110, pl. 83, figs. 4, 5 (1862.—"Brésil," Natterer coll., sc. Rio Negro).

much deeper yellow, the back darker and less golden, the median rectrices less distinctly edged with greenish, etc. Moreover, wings, tail, and bill are much shorter, and the adult male possesses a dark crimson mystacal stripe.

The characters and ranges of the four geographic races of the group are as follows :—

(*a*) *C. chrysochloros chrysochloros* (Vieill.).

Type locality : Paraguay.

Hab. Paraguay (Azara) : Lambaré (Rohde). Argentine : Fortin Donovan, Rio Pilcomayo (Kerr); Oran, Salta (Gerling—Brit. Mus.); Ledesma, Jujuy (Dinelli—Munich Mus.). S.E. Bolivia : San Francisco, Chaco (Borelli), Piedra Blanca (Smith). Brazil, Western Mattogrosso : Corumbá (Borelli, Smith), Miranda (Bach—Mus. Brit.), Cuyabá (Natterer).

Adult. Ground-colour of under parts deep ochreous golden yellow, throat uniform deep yellow. Male with upper part of the head and broad mystacal stripe deep crimson.

	Wing.	Tail.	Bill.
Five adult males	115—125	75—87	21½—24 mm.
Three adult females	117—126	77—83	21—23 „

(*b*) *C. chrysochloros braziliensis* (Swains.).

Picus Braziliensis Swainson, *Zoolog. Illustr.* i. pl. 20 (1820-21.—" province of Bahia ").

Type locality : Bahia, Eastern Brazil.

Hab. Eastern Brazil : Bahia (Swainson ; trade skins in Mus. H. v. Berlepsch); Piauhy : Parnaguá (Reiser).

Adult. Exactly like *C. c. chrysochloros*, but with longer, stouter bill, and upper parts duller olive.

	Wing.	Tail.	Bill.
Two adult males from Bahia	124	80	25 mm.
Three adult males from Piauhy	118, 121	76	24, 25 mm.
Two adult females from Bahia	122, 125	75, 79	24, 24½ „
One female from Piauhy	122	77½	24½ „

(*c*) *C. chrysochloros paraensis* Snethl.

Type locality : Murucutú, near Pará.

Hab. North Brazil : Murucutú, Pará (Hagmann); Calama, right bank of lower R. Madeira (Hoffmanns).

Adult. Differs from (*a*) and (*b*) by its larger size, brighter golden olive back, pale yellow ground-colour of the under parts, etc. Male with pileum red, but mystacal stripe dark olive (not crimson).

	Wing.	Tail.	Bill.
One adult male from Pará (*type*)	139	72	25 mm.
One adult male from Calama	139	80	25½ „
One adult female from Calama	137	75	25 „

(*d*) *C. chrysochloros capistratus* (Malh.).

Type locality : Rio Negro.

Hab. N.W. Brazil : Manáos, S. Isabel, Marabitanas, Rio Vaupé, Rio Negro (Natterer); Teffé, Rio Solimoëns (Hoffmanns). Eastern Ecuador : Sarayaçu (Buckley). British Guiana : R. Rupununi (Whitely).

Adult. Under parts from chin to tail-coverts regularly barred with dark olive-green and yellowish white. Male with pileum and broad mystacal stripe crimson. Female with upper part of the head bright golden olive.

	Wing.	Tail.	Bill.
Four adult males (including the *type*) . .	136—140	76—83	26—30 mm.
Six adult females	133—140	75—82	25—28 „

300. **Melanerpes cruentatus** (Bodd.).

Picus cruentatus Boddaert, *Tabl. Pl. enl.* p. 43 (1783.—ex D'Aubenton, Pl. enl. 694. fig. 2 : Cayenne).
Melanerpes cruentatus Hellmayr, *Nov. Zool.* xiv. p. 397 (Humaytha).
M. hirundinaceus Pelzeln, *l.c.* p. 248 (Salto Girao, Borba).

No. 769. ♂ ad., Allianca, 9. xi. 1907. "Iris clear yellow, feet dark green, bill black."—Wing 113 ; tail 61 ; bill 24 mm.

Typical with broad superciliaries, creamy above the eye, golden yellow in its posterior portion.

[301. **Veniliornis ruficeps ruficeps** (Spix).

Picus ruficeps Spix, *Av. Bras.* i. p. 63. pl. lvi. figs. 2 (♂), 3 (♀) (1824.—"in sylvis fluminis Amazonum").
Campias ruficeps var. *a*, Pelzeln, *l.c.* p. 245 (part. : Borba).

Right bank : Borba (Natterer).

The single adult male procured August 21, 1830, agrees in coloration with specimens from Pará and Marabitanas, upper Rio Negro. The median and greater wing-coverts have distinct, though narrow, pale yellow shaft-streaks, surrounded at the tip by a rather restricted dull red zone.

The same form occurs on the left bank of the Tapajóz, near Itaitúba,* in the Pará district, as well as in the neighbouring province of Maranhão, whence the Munich Museum has received several examples through Mr. F. Schwanda.]

302. **Veniliornis ruficeps haematostygma** (Malherbe).

Mesopicus haematostygma Malherbe (ex Natterer MS.), *Monogr. Picid.* ii. p. 72. pl. 61. fig. 2 (1862.—type = ♂ ad., Engenho do Gama, Rio Guaporé, Natterer coll. in Vienna Museum).
Campias ruficeps (var. β) Pelzeln, *l.c.* p. 246 (part. : Mattogrosso ; Ribeirão, Salto Theotonio, Rio Madeira).
Veniliornis ruficeps haematostygma Hellmayr, *Nov. Zool.* xiv. p. 397 (Humaytha).

Nos. 218, 228. ♂ ad., ♂ imm., Calama, 13, 15. vii. 1907.—Wing 96, 94 ; tail 60, 64 ; bill 21½, 20 mm.

No. 923. ♂ ad., Maruins, 11. vi. 1907.—Wing 91 ; tail 58 ; bill 21 mm.

Nos. 66, 1047. ♀ ♀ ad., Calama, 17. vi. 1907 ; Maruins, 22. vii. 1908.—Wing 96, 92 ; tail 58, 57 ; bill 19½, 19 mm.

"Iris reddish brown, feet blackish, bill blackish grey."

This series, as well as the specimens secured by Natterer on the upper Rio Madeira (Ribeirão, Salto Theotonio) and in Western Mattogrosso (Engenho do Gama, Villa Maria), differ from *V. r. ruficeps* by having the blood-red area on the upper wing-coverts much deeper and far more extended, etc. The light shaft-streaks within this red zone are either wholly absent or but indistinctly indicated. The dusky barring of the lower parts is not so dark, and the back less golden yellow.

Cf. *Abhandl. Bayer. Akad. Wissensch. II. Cl.* vol. xxii. 3. 1906. pp. 609–11.

* Cf. *Nov. Zool.* xiv, 1907. p. 25.

303. **Celeus jumana jumana** (Spix).

Picus jumana Spix, *Av. Bras.* i. p. 57. pl. xlvii. (1824.—"in sylvis flum. Amazonum").
Celeus jumana Pelzeln, *l.c.* p. 251 (Salto do Girao, Borba); Hellmayr, *Nov. Zool.* xiv. p. 398 (Humaytha).

Nos. — , 644. ♂♂, Calama, 1. ix. 1907; S. Isabel, 8. x. 1907.—Wing 158; tail 105, 106; bill 28, 29 mm.

No. 940. ♀ ad., Marmins, 23. vi. 1908.—Wing 164; tail 105; bill 27 mm.

"Iris red, feet plumbeous, bill light greyish."

The inner webs of the remiges are regularly banded with blackish and pale yellow. The rump is yellow, but the upper tail-coverts are cinnamon-rufous.

C. jumana citreopygius Scl. & Salv.,* of which I have examined several skins from Eastern Ecuador, merely differs by having the inner web of the remiges not barred with blackish, and by its darker, rufous brown upper tail-coverts. It is unquestionably the western representative of *C. jumana*, replacing the latter in Eastern Peru and Ecuador (Napo).

304. **Celeus grammicus** (Malh.).

Picus grammicus Malherbe, *Mém. Soc. Roy. Liège* p. 69 (1845.—"Brésil—coll. Natterer"—viz. Rio Negro, etc.).
Celeus grammicus Pelzeln, *l.c.* p. 252 (Salto do Girao, right bank); Hellmayr, *Nov. Zool.* xiv. p. 398 (Humaytha).

Nos. 180, 782. ♀♀ ad., Calama, 7. vii.; Allianca, 13. xi. 1907.—"Iris red, feet dark green, bill yellowish green."—Wing 126, 130; tail 80; bill 22—23 mm.

The Calama bird has the head and crest uniform cinnamon-rufous, while in the other specimen the feathers of these parts show distinct black central streaks.

305. **Cerchneipicus tinnunculus occidentalis** Harg.

[*Picus Tinnunculus* Wagler, *Isis* 1829. Heft 5. p. 516 (1829.—"Brasilia").]
Cerchneipicus occidentalis Hargitt, *Ibis* 1889. p. 230 (1889.—Upper Ucayali, Eastern Peru—Bartlett coll.); Ihering, *Rev. Mus. Paul.* vi. 1904. p. 444 (1905.—Rio Juruá).
Celeus tinnunculus (nec Wagler) Pelzeln, *l.c.* p. 250 (Caiçara, Rio Paraguay; Engenho do Gama, Rio Guaporé; Manaqueri, R. Solimoëns).

Nos. 35, 250, 301. ♂♂ ad., Calama, 13. vi., 22, 30. vii. 1907.—Wing 151—153; tail 100—104; bill 32—33 mm.

No. 87. ♀ ad., Calama, 21. vi. 1907.—Wing 153; tail 107; bill 32 mm.

"Iris red, feet blackish, bill grey."

In addition to the above, I have before me the whole of Natterer's series: an adult male from Manaqueri, two males from Caiçara, and an adult female from Engenho do Gama. All these specimens are clearly referable to *occidentalis* as defined by Hargitt, and differ from *tinnunculus*, of Eastern Brazil, by their slenderer bill, smaller size, and by having the three outer pairs of rectrices regularly banded with rufous. The amount of black barring of the upper parts is extremely variable, although the black cross-bands are apparently never so regular nor so densely set as in *C. t. tinnunculus*. In an adult male from Manaqueri and a female from Engenho do Gama the mantle, upper wing-coverts, and quills are broadly barred with black; an adult male from Calama (No. 301) and an immature male from Caiçara have these bars somewhat narrower and less numerous on the back, while the upper wing-coverts are partly uniform cinnamon-rufous. Two other males from Calama (No. 35) and Caiçara have even fewer bars on the back, and

* *C. citreopygius* Sclater & Salvin, *P. Z. S. Lond.* 1867. p. 758 (1867.—Yurimaguas, E. Peru).

scarcely any on the wing-coverts. Finally, a male and female from Calama (Nos. 250, 87) have both the mantle and wing-coverts uniform cinnamon-rufous, and there are but a few scattered black marginal spots on the outer web of the remiges. These birds show a decided approach to *C. torquatus*,* of Guiana, Venezuela, and Manáos, in the colour of the mantle, but may, of course, be easily separated by having the rump, upper tail-coverts, lower breast, and belly broadly barred with black. Yet it is more than probable that both *occidentalis* and *tinnunculus* will prove to be geographic races of the northern species.

306. **Crocomorphus flavus** (P. L. S. Müll.).

Picus flavus P. L. S. Müller, *Natursyst.* Suppl. p. 91 (1776.—based on D'Aubenton, Pl. enl. 599 : Cayenne).
Crocomorphus flavus Hellmayr, *Nov. Zool.* xiv. p. 398 (Humaytha).
Celeus citrinus Pelzeln, *l.c.* p. 252 (Borba).

Nos. 584, 681, 784. ♂♂ ad., Jamarysinho, 21. ix.; S. Isabel, 11. x.; Allianca, 13. xi. 1907.—Wing 141—144; tail 88—91; bill 25—27½ mm.

No. 204. ♂ imm., Calama, 11. vii. 1907.—Wing 132; tail 88; bill 25½ mm.

Nos. 365, 783. ♀♀ ad., Allianca, 13. xi.; Calama, 10. viii. 1907.—Wing 136, 137; tail 92, 85; bill 25½, 26 mm.

"Iris red, feet grey or green, bill yellowish green."

Some of these specimens have the rufous of the remiges quite as much extended as Cayenne and Venezuelan (Caura) examples, while in others the quills are blackish with hardly any rufescent tinge. They differ, however, from those of more northern localities by having very little, if any, rufous on the upper wing-coverts.

[307. **Campephilus melanoleucos** (Gm.).

Picus melanoleucos Gmelin, *Syst. Nat.* 1. i. p. 426 (1788.—ex Latham : Surinam).
Campephilus melanoleucus Pelzeln, *l.c.* p. 242 (Borba).

Borba (Natterer).
Ranging from Rio de Janeiro north to Guiana.]

308. **Campephilus trachelopyrus** (Malh.).

Megapicus trachelopyrus Malherbe, *Mém. Soc. d'Hist. Nat. Moselle* 1857. p. 1 (1857.—Pérou).

No. 404. ♂ ad., Calama, 16. viii. 1907. "Iris light yellow, feet black, bill grey."—Wing 180; tail 123; bill 41 mm.

In size this bird agrees with Pará examples (cf. *Nov. Zool.* xii. pp. 300–301), while others from Peru are decidedly larger. Natterer obtained the species even farther south, at Engenho do Gama, Rio Guaporé, in Western Mattogrosso.†

309. **Picumnus aurifrons aurifrons** Pelz.

Picumnus aurifrons Pelzeln, *Zur Orn. Bras.* iii. pp. 241, 334 (1869.—Engenho do Gama, Caiçara, Rio Guaporé; Salto do Girao, Borba, Rio Madeira); Hellmayr, *Nov. Zool.* xiv. p. 398 (Humaytha); Snethlage, *Journ. f. Ornith.* 1908. p. 535 (Arumatheua, Tocantins).

Nos. 10, 585. ♂♂ ad., Calama, 9. vi.; Jamarysinho, 21. ix. 1907.—Wing 49, 50; tail 23; bill 10 mm.

Nos. 647. ♂ juv., S. Isabel, 8. x. 1907.—Wing 49; tail 24; bill 10 mm.

* *Picus torquatus* Boddaert, *Tabl. Pl. enl.* p. 52 (1783.—ex D'Aubenton, Pl. enl. 863 : Cayenne).
† Pelzeln, *Orn. Bras.* iii. p. 242.

Nos. 312, 614. ♀ ♀ ad., S. Isabel, 31. vii., 3. x. 1907.—Wing 50 ; tail 22½, 24 ; bill 10½ mm.

"Iris brown, feet plumbeous or blackish, bill black."

The adult males have the tips to the sincipital feathers golden yellow, while in the females the top of the head is dull black, each feather with a small, rounded apical spot of white. The markings of the under parts are exactly as in Natterer's type-specimens : foreneck regularly banded with dusky, breast and abdomen with dusky longitudinal stripes. Strangely enough, a young male obtained by Natterer at Borba, August 5, 1830—in the British Museum—undoubtedly belongs to the present species and **not** to *P. borbae*, for the tips of the newly grown frontal feathers are distinctly golden yellow! Miss Snethlage has lately met with *P. a. aurifrons* at Arumatheua, Tocantins River.

P. aurifrons flavifrons Hargitt,* from N.W. Brazil (Teffé) † and Eastern Peru, differs merely by having rounded spots (instead of longitudinal streaks) of dusky on the belly. A specimen from Humaytha, left bank of the Rio Madeira, is slightly intermediate in this respect, though nearer *P. a. aurifrons*.

[310. **Picumnus borbae** Pelz.

Picumnus borbae Pelzeln, *l.c.* pp. 241, 334 (1869.—Borba, Rio Madeira) ; Hellmayr, *l.c.* p. 398 (Borba).

Right bank : Borba (Natterer, Hoffmanns).

The male may be at once distinguished from *P. a. aurifrons*, with which it agrees in the pattern of the lower parts, by the longer, brick-red (instead of golden yellow) tips to the feathers of the sinciput. Specimens from Itaitúba (left bank of the Tapajóz River), ‡ and the Upper Ucayali, E. Bartlett coll. in Brit. Mus., are identical with the types from Borba. It is strange that this species should occur side by side with the yellow-fronted *P. a. aurifrons* and *P. a. flavifrons*, still I do not think that it can be a mere colour-variety.]

311. **Ceryle torquata torquata** (Linn.).

Alcedo torquata Linnaeus, *Syst. Nat.* xii. 1. p. 180 (1766.—ex Brisson : Mexico and Martinique).
Ceryle torquata Pelzeln, *l.c.* p. 23 (Borba) ; Hellmayr, *Nov. Zool.* xiv. p. 402 (Borba).

No. 443. ♀ imm., Calama, 23. viii. 1907. "Iris greyish brown, bill black, base of lower mandible reddish."

312. **Ceryle americana americana** (Gm.).

Alcedo americana Gmelin, *Syst. Nat.* 1. i. p. 451 (1788.—ex D'Aubenton, Pl. enl. 591. figs. 1, 2 : Cayenne).
Ceryle americana Pelzeln, *l.c.* p. 23 (Rio Guaporé, Borba) ; Hellmayr, *l.c.* p. 402 (Humaytha).

No. 577. (♂) ad., Jamarysinho, 20. ix. 1907. "Iris, feet, and bill black."—Wing 72 ; tail 51 ; bill 43 mm.

313. **Ceryle aenea aenea** (Pall.).

Alcedo (*aenea*) Pallas in Vroeg's *Cat. rais. d'Ois., Adumbrat.* p. 1. no. 54 (1764.—Surinam).
Céryle superciliosa Pelzeln, *l.c.* p. 24 (Borba) ; Hellmayr, *l.c.* p. 402 (Humaytha).

No. 747. ♂ ad., Allianca, 5. xi. 1907.—Wing 55½ ; tail 36 ; bill 27¾ mm.
No. 342. ♂ juv., Calama, 6. viii. 1907.

* *Picumnus flavifrons* Hargitt, *Ibis* 1889. p. 229 (type ex Sarayaçu, R. Ucayali, East Peru).
† Hellmayr, *Nov. Zool.* xiv. p. 80. ‡ Idem, *l.c.* p. 26.

Nos. 68, 559, 805. ♀ ♀ ad., Calama, 17. vi. ; Jamarysinho, 17. ix. ; Allianca, 28. xi. 1907.—Wing 56—57 ; tail 34—35 ; bill 28 mm.

"Iris dark brown, feet yellowish grey or brownish grey, bill black."

Identical with Surinam and Cayenne examples.

[314. **Trogon rufus rufus** Gm.

Trogon rufus Gmelin, *Syst. Nat.* 1. i. p. 404 (1788.—ex D'Aubenton, Pl. enl. 736 : Cayenne ; = ♀).
Trogon atricollis Pelzeln, *l.c.* p. 20 (Borba).
T. a. atricollis Hellmayr, *Nov. Zool.* xiv. p. 403 (Humaytha).

Right bank : Borba (Natterer); left bank : Humaytha (Hoffmanns).]

[315. **Trogon viridis viridis** Linn.

Trogon viridis Linnaeus, *Syst. Nat.* xii. 1. p. 167 (1766.—ex Brisson : Cayenne) ; Pelzeln, *l.c.* p. 20 (Borba).

Right bank : Borba (Natterer). Widely distributed in South America.]

316. **Trogon violaceus violaceus** Gm.

Trogon violaceus Gmelin, *Syst. Nat.* 1. i. p. 404 (1788.—ex Koelreuter, *Nov. Act. Petrop.* ii. p. 436. no. 7. tab. 16. fig. 8 ; Surinam).
T. meridionalis Pelzeln, *l.c.* p. 20 (Borba).

No. 978. ♂ perad., Maruins, 7. vii. 1908. "Iris brown, feet black, bill pale grey."—Wing 118 ; tail 128 ; bill 16 mm.

This bird I cannot distinguish from some Cayenne and British Guiana specimens, the upper wing-coverts being narrowly, but distinctly, vermiculated with whitish. Perhaps the uropygium is deeper blue, and the white ends of the three outer rectrices somewhat wider, but these slight divergencies are probably individual.

The distribution of *T. v. violaceus* and *T. v. ramoniana* Dev. & Des Murs * is difficult to understand. The former ranges from French Guiana westwards to the Amazonian slopes of the Colombian Andes, but occurs also on the middle course of the Rio Madeira. *T. v. ramoniana* extends from the Rio Napo (Eastern Ecuador) south to Peru, and is, furthermore, found in Lower Amazonia, specimens from Victoria (left bank of the Xingú) being in every respect similar to Peruvian examples !

317. **Urospatha martii martii** (Spix).

Prionites martii Spix, *Av. Bras.* i. p. 64. pl. lx. (1824.—"in sylvis Parae").
Momotus martii Pelzeln, *l.c.* p. 19 (Borba).
Urospatha m. martii Hellmayr, *Nov. Zool.* xiv. p. 403 (Humaytha).

Nos. 146, 724. Adult (not sexed), ♀ ad., Calama, 1. vii., 23. x. 1907. "Iris brown or red, feet and bill black."—Wing 135, 142 ; tail 230 ; bill 40, 44 mm.

Agree with the type in having the tail mainly dark green, and the central rectrices **not** spatulated. Cf. my remarks *l.c.*

U. m. martii is widely distributed in Amazonia, ranging from Eastern Ecuador and Peru to the left bank of the Tapajóz. In Western Ecuador, Colombia, etc., it is replaced by *U. m. semirufa* (Scl.). Cf. my revision of Spix's types, p. 611.

* *Trogon ramoniana* Deville & Des Murs, *Rev. Mag. Zool.* (2) i. p. 331 (1849.—Sarayaçu, Pampa del Sacramento, Eastern Peru).

318. **Prionornis platyrhynchus pyrrholaemus** (Berl. & Stolzm.).

Cf. *Nov. Zool.* xiv. 1907. p. 403 (crit. ; Humaytha).

No. 1030. ♂ ad., Maruins, 17. vii. 1907.—Wing 116 ; tail 202 ; bill 37 mm.

"Iris dark brown, feet and bill black."

Middle pair of rectrices **not** spatulated. Chin and upper throat pale blue, slightly mixed with greenish.

Cf. my remarks *l.c.* pp. 403–4, where a review of the races is given.

319. **Momotus momota nattereri** Scl.

[*Ramphastos Momota* Linnaeus, *Syst. Nat.* xii. 1. p. 152 (1766.—based on Edwards & Brisson (excl. syn. Marcgrave) : Cayenne (ex Brisson) fixed as type locality).]

Momotus Nattereri Sclater, *Proc. Zool. Soc. Lond.* xxv. 1857. p. 251 (1858.—Yungas in Bolivia ; Goyaz, Brazil) ; Pelzeln, *l.c.* p. 19 (Borba).

No. 450. ♀ ad., Calama, 25. viii. 1907.—Wing 132 ; tail 237 ; bill 39 mm.

"Iris brown, feet greyish brown, bill black."

This bird is perfectly identical with typical specimens from Bolivia (Sara) and Mattogrosso (Chapada). There is no trace of a rufous nape-patch, but the lower parts are distinctly suffused with ochreous. Cf. also *Nov. Zool.* xiv. p. 28.

M. m. nattereri represents *M. m. momota* in the districts south of the Amazon and west of the Tapajóz, as well as in Goyaz, Mattogrosso, and Eastern Bolivia. The north-western limits of its range, however, are not exactly known.

320. **Urogalba dea amazonum** Scl.

[*Alcedo Dea* Linnaeus, *Syst. Nat.* x. p. 116 (1758.—ex Edwards, *Orn.* pl. 10 : Surinam).]

Urogalba amazonum Sclater, *Proc. Zool. Soc. Lond.* xxiii. 1855. p. 14 (1855.—"in Brasil. Boreali, Pará, et fl. Amazonum").

U. dea amazonum Hellmayr, *Nov. Zool.* xiv. p. 401 (Humaytha).

Galbula paradisea (nec Linn.) Pelzeln, *l.c.* p. 24 (part. : Salto do Girão, Rio Madeira).

No. 676. ♂ ad., S. Isabel, Rio Preto, 11. x. 1907.—Wing 96 ; tail — ; bill 61 mm.

No. 678. ♀, S. Isabel, 11. x. 1907.—Wing (moulting) ; tail 130 ; bill 51½ mm.

"Iris brown, feet and bill black."

The skins agree with Pará examples in the Munich Museum, the feathers about the forehead and in the superciliary region being broadly edged with whity brown. The male has the wing fully as long as Sclater's type.

I consider it useful to recapitulate what we know about the distribution of *U. dea dea* and its southern representative. *U. dea dea* inhabits French, Dutch, and British Guiana, the banks of the Rio Negro, from Marabitanas and San Carlos down to Manáos, and extends to Iquitos, north bank of the Peruvian Amazons. *U. dea amazonum* is found along the south bank of the Amazons and on its southern affluents, from Pará to Teffé (Rio Solimoëns). The main valley of the Amazons thus divides the ranges of the two nearly allied forms. Cf. *Nov. Zool.* xiv. 1907. pp. 27–8.

[321. **Galbula galbula** (Linn.).

Alcedo Galbula Linnaeus, *Syst. Nat.* xii. 1. p. 182 (1766.—ex Edwards et Brisson : Cayenne—excl. syn. Marcgrave, Brazil).

Galbula viridis Pelzeln, *l.c.* p. 24 (Borba).

Right bank : Borba (Natterer). Not recorded from any locality farther south, but widely distributed in the Guianas, in the Orinoco region, etc.]

322. **Galbula rufoviridis** Cab.

Galbula rufoviridis Cabanis in "Ersch & Gruber's *Encycl. Wissensch. & Künste* lii. 1. p. 308" *).
G. maculicauda Pelzeln, *l.c.* p. 24 (Theotonio).

Nos. 73, 382. ♂♂ ad., Calama, 18. vi., 12. viii. 1907.—Wing 78, 79; tail 89, 91½; bill 48, 50 mm.

Nos. 406, 497, 721. ♀♀, Calama, 16, 31. viii.; S. Isabel, 19. x. 1907.—Wing 77—80; tail 84—94; bill 44—48 mm.

"Iris brown, feet yellow or grey, bill black."

Compared with a good series of *G. rufoviridis* from Mattogrosso, Bahia, Maranhão, and Eastern Bolivia, these specimens have the green apical mark to the two outer rectrices slightly less extended, though one of the females is scarcely different on this score. In the females the throat, too, is rather paler buff than in the majority of the examples from more southern localities. The range of *G. rufoviridis* has recently been traced as far north as Monte Alegre and Marajó.† It is most probably a subspecies of *G. ruficauda* Cuv., but I have not yet had time to thoroughly work out its relations.

[323. **Galbula tombacea cyanescens** Dev.

[*Galbula tombacea* Spix, *Av. Bras.* i. p. 55. pl. lviii. (1824.—"in sylvis fl. Amazonum").]
Galbula cyanescens Deville, *Rev. Mag. Zool.* (2) i. p. 56 (1849.—"les bords de l'Amazone"—the types in the Paris Museum are from Sarayaçu, Ucayali R.).
G. tombacea cyanescens Hellmayr, *Nov. Zool.* xiv. p. 402 (Humaytha).

Left bank: Humaytha (Hoffmanns).

Since writing the account in my revision of Spix's types ‡ I have studied the series of these birds in the Tring, British, and Paris Museums, and a few words about the results arrived at may be welcome to ornithologists.

G. t. tombacea Spix, with the forehead and anterior portion of the crown smoky brown, extends from the north bank of the Peruvian Amazons (Iquitos, Pebas) to the eastern slopes of the Colombian Andes (Bogotá coll.). Of this form I have examined twenty Bogotá skins; one adult male from Iquitos (Mus. H. v. Berlepsch); a couple from Pebas (Hauxwell) and an adult male from Elvira, in the British Museum; and three adult males, obtained at Pebas by Castelnau et Deville, in the Paris Museum. § Spix's type, the exact locality of which is not recorded, belongs to the same race.

G. t. cyanescens Deville, with the whole of the pileum shining green, replaces the preceding in Northern Peru, south of the Amazons, as well as near Nauta, also in Central and South-Eastern Peru, ranging eastwards to Humaytha, left bank of the Rio Madeira. I have examined specimens from the following localities: La Merced (4 ♂♂ ad., 2 ♀♀), La Gloria (1 ♀), Pozuyo (♂ ♀), Chuchurras, Huánuco (♂ ♀ ad.), Huaynapata (1 ♂ ad.), Cosnipata (1 ♂ ♀), Sarayaçu, Ucayali (1 ♂ ad., 2 ♀♀, 1 juv.: Castelnau coll., *types* of *G. t. cyanescens*), Nauta (2 ♂♂ ad.), Rio Juruá (1 ♂ ad.), Humaytha (2 ♂♂ ad.).

Three specimens from the Rio Javarri (two in the British, one in the Paris

* I have not been able to verify the above reference.

† Snethlage, *Journ. f. Ornith.* 1906. p. 520.

‡ *Abhandl. Akad. Wissensch. München II. Kl.* vol. xxii. 3. 1906. pp. 601-2.

§ Dr. Sclater's assumption (*Monogr. Jacamars* p. 21) that both *G. t. tombacea* and *G. t. cyanescens* were obtained by Deville on the Rio Ucayali is not correct. The examples of the former are from Pebas, but those of the latter from the Ucayali. Besides these, there is an adult male, taken January 2, 1847, on the Rio Javarri (see above), in the Paris Museum.

Museum) are slightly intermediate between *tombacea* and *cyanescens*, the smoky brown feathers of the forehead being narrowly edged with green or bluish green.

As pointed out by me (*l.c.* p. 402), the Humaytha birds have a larger, more whitish chin-spot than the Peruvian ones. However, it is well to remark that this character is subject to much individual variation in the northern *G. t. tombacea*.]

324. **Galbula cyanicollis** Cass.

Galbula cyanicollis Cassin, *Proc. Acad. N. Sci. Philad.* v. p. 154. pl. vii. (1851.—Pará); Pelzeln, *l.c.* p. 24 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 402 (Humaytha).

Nos. 186, 231, 390. ♂♂ ad., Calama, 7, 16. vii., 14. viii. 1907.—Wing 77—81 tail 82—84; bill 43—46 mm.

No. 927. ♂ ad., Maruins, 12. vi. 1908.—Wing 81; tail 83; bill 43½ mm.

No. 37. ♀ imm., Calama, 13. vi. 1907.—Wing 77½; tail 79; bill 41 mm.

"Iris dark brown, feet yellow, bill black, lower mandible yellowish green."

These specimens agree perfectly with several from Pará, while those previously obtained by Mr. Hoffmanns near Humaytha (left bank) had the cheeks and malar region golden green (instead of blue). Cf., however, the remarks by Miss Snethlage in *Journ. f. Ornith.* 1908. p. 20.

G. cyanicollis ranges from Pará westwards to the Juruá and Purús Rivers.

[325. **Galbula leucogastra leucogastra** Vieill.

Galbula leucogastra Vieillot, *Nouv. Dict.* xvi. p. 444 (1817.—based on "Jacamar à ventre blanc," Levaillant, *Hist. Nat. Promérops et Guêpiers*, Suppl. p. 46. pl. H.—"du Brésil"; we substitute Cayenne); Pelzeln, *l.c.* p. 24 (Borba),

Right bank: Borba (Natterer).

The two skins from this locality in the Vienna Museum agree perfectly with others from Guiana. *G. l. leucogastra* ranges from French Guiana westwards to the upper Rio Negro (Guia, Marabitanas), and southwards to Borba, on the Lower Madeira. An adult male from Marabitanas, belonging to the Vienna Museum, has a larger bill and slightly more coppery suffusion both on back and breast, pointing towards *G. l. chalcothorax* Scl.* Typical specimens of the latter, however, may be recognized by their longer wings and nearly uniform copper-red back and breast. There are several examples from the Rio Napo in the Munich Museum.]

326. **Jacamerops aurea** (P. L. S. Müll.).

Alcedo Aurea P. L. S. Müller, *Natursyst.* Suppl. p. 94 (1776.—ex Vosmaer: Berbice, British Guiana).

Jacamerops grandis Pelzeln, *l.c.* p. 25 (Borba).

No. 226. ♂ ad., Calama, 15. vii. 1907. "Iris dark brown, feet dark grey, bill black."—Wing 110; tail 132; bill 51 mm.

Agreeing with Guianan specimens. Forehead distinctly bluish green.

[327. **Bucco capensis** Linn.

Bucco capensis Linnaeus, *Syst. Nat.* xii. 1. p. 168 (1766.—ex Brisson: "Le Barbu," *Ornith.* iv. p. 92, pl. vi. fig. 2: "Guiana"—not "Cap. C. spei" as erroneously given by Linnaeus).

B. collaris Pelzeln, *l.c.* p. 22 (Borba).

Right bank: Borba (Natterer).

Amazonian specimens do not differ in any way from typical Guianan skins.]

* *Galbula chalcothorax* Sclater, *Proc. Zool. Soc. Lond.* xxii. 1854. p. 110 (1855.—Quijos, Eastern Ecuador).

328. **Bucco hyperrhynchus** Scl.

Bucco hyperrhynchus Sclater, *Proc. Zool. Soc. Lond.* xxiii. 1855. p. 193. pl. cv. (Jan. 1856.—"Upper Amazons"); Hellmayr, *Nov. Zool.* xiv. p. 399 (Humaytha).

No. 785. ♀ ad., Allianca, 13. xi. 1907.—Wing 116; tail 90; bill 40½ mm.

"Iris yellowish red, feet and bill black."

This bird, as well as the two from Humaytha obtained by Mr. Hoffmanns on his first Madeira journey, belong undoubtedly to the same form as a series from Pará. But whether the so-called *B. dysoni* Scl. from Central and Western South America is really separable appears to be very questionable, since there is much individual variation as regards size of the bill and amount of white on the forehead. Yet I have never seen any specimen from Central America, Ecuador, etc., that had so powerful a bill as is often found in collections from Pará.

On the other hand, *B. macrorhynchos* Gm. (ex Cayenne, British Guiana, Rio Branco and Manáos) is quite distinct specifically, and easily recognizable by the lack of the white forehead, its shorter bill, and by having the feathers of the black pectoral band narrowly margined with white.

[329. **Bucco tamatia tamatia** Gm.

Bucco Tamatia Gmelin, *Syst. Nat.* 1. i. p. 405 (1788.—ex D'Aubenton, Pl. enl. 746. fig. 1: Cayenne); Pelzeln, *Orn. Bras.* i. p. 22 (Engenho do Gama, S. Vicente, Borba).

Right bank: Borba; Engenho do Gama and São Vicente, Rio Guaporé (Natterer).

Thanks to the kindness of Dr. Lorenz, Natterer's series has been submitted to my inspection. Besides four examples from the upper Rio Negro, there are two adult females from Borba, an adult male and a young female from S. Vicente, and the Munich Museum possesses an adult male obtained at Engenho do Gama. This series agrees, in the deep tawny colour of the throat, amount of black spotting on the lower parts, size, etc., with numerous specimens I have from Cayenne, British Guiana, Maipures (Orinoco), and Surinam, and unquestionably represents typical *B. t. tamatia*.]

[330. **Bucco tamatia pulmentum** Scl.

Bucco pulmentum Sclater, *Proc. Zool. Soc. Lond.* xxiii. 1855. p. 194. pl. cvi. (Jan. 1856.—"Upper Amazons").

B. t. pulmentum Hellmayr, *Nov. Zool.* xiv. p. 400 (Humaytha).

Left bank: Humaytha (Hoffmanns).

The single adult female obtained by Mr. Hoffmanns during his first expedition agrees perfectly with Sclater's type and other Upper Amazonian skins in the British Museum. It differs from *tamatia*, of the right bank, by having the throat very much paler, light buff (instead of deep ochraceous or tawny). The other characters, viz. greater amount of rufous on forehead and coarser spotting of the breast, claimed by Dr. Sclater, do not prove to be constant.

This is another instance of the Madeira Valley dividing the ranges of two nearly allied forms.

A third race of the *tamatia* group inhabits the Pará district, N.E. Brazil. It has the throat fully as dark or even deeper tawny than *B. t. tamatia*, but may be recognized by the much larger, more crowded, black spots on the breast and sides of the belly, many of the feathers showing, besides the apical spot, a broad black cross-band in the middle.

The range of the three forms is as follows :—

(*a*) *Bucco tamatia tamatia* Gm.

Type locality : Cayenne.

Hab. French Guiana: Cayenne (Cherrie, etc.), Saint-Jean-du-Maroni (Le Moult; Mus. Monac.). Surinam: Paramaribo, Kwata (Penard; Tring Mus.). British Guiana: Camacusa, Rio Rupununi, Annai, etc. (Whitely). Venezuela: Maipures, Orinoco R. (Cherrie). North Brazil: Marabitanas, Rio Vaupé, upper Rio Negro; Manáos; Forte do São Joaquim, Rio Branco (Natterer); right bank of the Rio Madeira: Borba, south to Engenho do Gama and S. Vicente, on the Guaporé (Natterer).

Examined : 3 French Guiana, 7 Surinam, 4 British Guiana, 2 Maipures, 1 Marabitanas, 1 Rio Vaupé, 1 Manáos, 1 Rio Branco, 2 Borba, 1 Engenho do Gama, 2 S. Vicente.

(*b*) *Bucco tamatia pulmentum* Scl.

Type locality : Upper Amazons.

Hab. Eastern Ecuador; Sarayaçu (Buckley). Eastern Peru: Pebas (Castelnau & Deville), Chamicuros (Bartlett), etc. W. Brazil: Humaytha, left bank of Rio Madeira (Hoffmanns).

Examined : 3 Eastern Ecuador, 3 Eastern Peru, 1 (*type*) "Upper Amazons," 1 Humaytha.

(*c*) *Bucco tamatia hypnaleus* (Cab. & Heine).

Chaunornis hypnalea Cabanis & Heine, *Mus. Heinean.* iv. 1. p. 145. footnote (1863.– Pará).

Type locality : Pará.

Hab. N.E. Brazil: Pará (Natterer), Rio Capim (Wallace), Boavista, Marajó (Steere).

Examined : 1 ♂ ad., Pará (Natterer); 1 ♀ ad., Boavista (Tring).]

[331. **Bucco chacuru** Vieill.

Cf. Hellmayr, *Nov. Zool.* xiv. p. 400 (Humaytha).

Left bank: campos of Humaytha (Hoffmanns).

No additional material has come to hand. The Humaytha birds agree in size with South Brazilian and Paraguay specimens, but are perhaps different in coloration (cf. *l.c.*). Skins from Eastern Bolivia (Santa Cruz) and South-Eastern Peru (Santa Ana) are much larger.]

332. **Bucco macrodactylus** (Spix).

Cyphos macrodactylus Spix, *Av. Bras.* i. p. 51. pl. xxxix. fig. 2 (1824.—"in sylvis flum. Amazonum").

Bucco macrodactylus Pelzeln, *l.c.* p. 22 (S. João do Crato); Hellmayr, *Nov. Zool.* xiv. p. 400 (Humaytha).

Nos. 835, 877. ♂ ♀ ad., Marmellos, 20, 27. xii. 1907.—Wing 66; tail 54, 56; bill 23 mm.

No. 393. ♀ ad., Calama, 15. viii. 1907.—Wing 67; tail 64; bill 23 mm.

"Iris red or brownish red, feet grey, bill black."

Specimens from the Madeira agree well with those from East Ecuador and Bogotá collections. *B. macrodactylus* is widely distributed in Upper Amazonia.

333. **Malacoptila rufa** (Spix).

Bucco rufus Spix, *Av. Bras.* i. p. 52. pl. xl. fig. 1 (1824.—"in sylvis fl. Amazonum").
Malacoptila rufa Hellmayr, *l.c.* p. 400 (Humaytha).

Nos. 565, 564. ♂ ♀ ad., Jamarysinho, 16. ix. 1907.—Wing 91, 92; tail 69, 67; bill 24, 26 mm.

Nos. 797, 798, 801. ♂ imm., ♀ ♀, Allianca, 22, 23. xi. 1907.—Wing 91—93; tail 66—70; bill 24—27 mm.

No. 893. ♀ ad., Maruins, 31. v. 1908.—Wing 93; tail 65; bill 25 mm.

"Iris red or reddish brown, feet grey or greyish brown, bill black, base of lower mandible yellowish."

The specimens are identical with the type in the Munich Museum. *M. rufa* ranges all over Amazonia from Eastern Peru to Pará.

[334. **Monasa morphoeus peruana** Scl.

[*Bucco morphoeus* Hahn, *Vögel aus Asien, etc.* Lief. xiv. pl. 2 (1823.—"Brasilien").]
Monasa peruana Sclater, *Proc. Zool. Soc. Lond.* xxiii. 1855. p. 194 (Jan. 1856.—in Peruvia orientali in regionibus fl. Amazonum superioris: Chamicurros [Hauxwell]).
Monasa leucops Pelzeln, *l.c.* p. 22 (part.: Borba; Rio Içanna).

Right bank: Borba (Natterer).

The three females obtained by Natterer at Borba, as well as another from the Rio Içanna (upper Rio Negro), in the Vienna Museum, are, in every respect, similar to examples from the Rio Napo, East Ecuador, in the Munich Museum. The series differs from *M. m. morphoeus*, of East Brazil (Rio de Janeiro to Pará), in smaller white chin-spot, lesser amount of white about the forehead, and generally smaller size (wing 122—127, tail 116—122 mm).]

335. **Monasa nigrifrons** (Spix).

Bucco nigrifrons Spix, *Av. Bras.* i. p. 53. pl. xli. fig. 2 (1824.—"in sylvis flum. Solimoëns").
Monasa nigrifrons Pelzeln, *l.c.* p. 22 (Borba).

No. 219. ♂ ad., Calama, 13. vii. 1907. "Iris reddish brown, feet black, bill clear red."—Wing 123; tail 115; bill 33 mm.

Identical with the type. Specimens from Eastern Ecuador (Rio Napo) are rather darker, more of a blackish grey, though not always so.

[336. **Nonnula rubecula cineracea** Scl.

[*Bucco rubecula* Spix, *Av. Bras.* i. p. 51. pl. xxxix. fig. 1 (1824.—"prope pagum *Malhada*, fluminis St. Francisci proximum," Southern Bahia, E. Brazil).]
Nonnula cineracea Sclater, *Proc. Zool. Soc. Lond.* 1881. p. 778 (1881.—Rio Javarri).
Monasa rubecula (nec Spix) Pelzeln, *l.c.* p. 23 (part.: Borba, Rio Madeira; Marabitanas and Rio Içanna, upper Rio Negro).

Right bank: Borba (Natterer).

Dr. Lorenz having kindly forwarded to me the whole of Natterer's series, I am enabled to state that the Amazonian specimens obtained by this celebrated naturalist belong to the pale race described by Dr. Sclater from a single example in the British Museum. An adult female from Borba, June 9, 1830, in the Vienna Museum, agrees with the type in all essential particulars, except that the bill is not quite so long, and the back slightly more tinged with brownish. Both differ from a good series of *N. r. rubecula* (from Bahia, S. Paulo, Goyaz, and Paraguay) by lacking the whitish patch below the eye (the cheeks and ear-coverts

being uniform dark smoky grey); by having the upper parts dull smoky grey, with but a faint brownish tinge (instead of being more or less brightly rufescent brown); the throat and foreneck much paler, dull buff (instead of bright ochraceous), shading into pale greyish buff on flanks; and by their longer bill and decidedly shorter tail.

A young bird in fluffy plumage, from the upper Rio Negro, belongs most certainly also to *cineracea*, although it is darker, more smoky brown, on the back, and more ochreous on the throat. But it is still less brightly coloured than young birds of *N. r. rubecula*, and shows the long bill as well as the uniform blackish grey sides of the head characteristic of *N. r. cineracea*.

The range of the two races is, as far as our present knowledge goes, the following :—

(*a*) *N. rubecula rubecula* (Spix)

Type locality: Malhada, on the S. Francisco River, Southern Bahia, East Brazil.

Hab. South-Eastern Brazil: Bahia (Wucherer coll., Mus. Brit.), Malhada, on the S. Francisco R. (Spix); Goyaz (Natterer, Baer); S. Paulo: Victoria (Hempel), Ypanema (Natterer), Iguapé, Avanhandava, Bebedouro, Itapurá, Mattão (Mus. Paulista). Minas Geraës: Lagoa Santa (Reinhardt). Rio de Janeiro: Novo Friburgo (Burmeister). Paraguay: Bernalcué, east of Asunción (Wieninger; Mus. Monac.).*

Measurements of ten adults (including type): wing 64—69; tail 62—64; bill 19—21 mm.

(*b*) *N. rubecula cineracea* Scl.

Type locality: Rio Javarri, W. Brazil.

Hab. Western Brazil: Rio Javarri (Bates); Marabitanas and R. Içanna, upper Rio Negro; Borba, Rio Madeira (Natterer).

Dimensions:

	Wing.	Tail.	Bill.
1. Adult, R. Javarri. *Type* of subspecies. Brit. Mus. . .	67	60	25 mm.
2. ♀ ad., Borba, June 9, 1830. Vienna Museum . . .	67	57	22 mm.
3. ♂ juv., Upper Rio Negro. Vienna Museum . . .	65½	59	23 mm.]

[337. **Nonnula sclateri** Hellm.

Nonnula sclateri Hellmayr, *Bull. B. O. C.* xix. p. 55 (1907.—Humaytha); idem., *Nov. Zool.* xiv. p. 401.

Left bank: Humaytha (Hoffmanns).

This species, of which Mr. Hoffmanns obtained a single adult female on his first expedition to the Rio Madeira in 1906, is somewhat like *N. r. rubecula*, having the upper parts warm brown, but may be distinguished by its much smaller size (wing 62; tail 53½ mm.); deep ochraceous buff (instead of white or pale buffy) frontal band, lores, and chin; duller, more greyish fulvous, throat and foreneck, which, however, are much deeper in tint than in *N. r. cineracea*, etc. Like the latter race, it lacks the whitish patch below the eye, and has the flanks

* Sclater (*Monogr. Jacamars and Puff Birds* p. 134) also records it from the Lower Amazons, but I have not been able to ascertain on what authority. Wallace certainly did not obtain specimens anywhere on the Lower Amazons (cf. *P. Z. S. Lond.* 1867. pp. 566-96). It is also to be remembered that none of the more recent travellers (Robert, Hoffmanns, Snethlage) met with *N. r. rubecula* in the Pará district.

pale buff. It is thus seen to be somewhat intermediate between *N. r. rubecula* and *N. r. cineracea*, but differs from both at first sight by the bright red, nearly bare and slightly protruding eyelid, which, in its allies, is black, beset with numerous white plumules.]

338. **Chelidoptera tenebrosa tenebrosa** (Pall.).

Cuculus tenebrosus Pallas, *Neue Nord. Beytr.* iii. p. 2. pl. i. fig. 1 (1782.—Surinam).
Chelidoptera t. tenebrosa Hellmayr, *Nov. Zool.* xiv. p. 401 (Humaytha).

No. 1054. ♀ ad., Maruins, 22. vii. 1908. "Iris dark brown, feet and bill black."—Wing 107 ; tail 54 ; bill 20 mm.

Identical with topotypical specimens from Surinam.

339. **Capito auratus intermedius** Berl. & Hart. (?).

[*Bucco auratus* Dumont, *Dict. Sci. Nat.* iv. p. 54 (1816.—based on Levaillant, *Hist. Nat. Ois. Paradis et Rolliers*, etc. ii. 1806. p. 63. pl. 27 : "Le Barbu Orangé du Pérou").]
Capito auratus intermedius Berlepsch & Hartert, *Nov. Zool.* ix. p. 98 (1902.—Nericagua, Upper Orinoco).

No. 377. ♂ ad., Calama, 11. viii. 1907. "Iris light red, feet plumbeous, bill black, base of lower mandible grey."—Wing 85 ; tail 56 ; bill 21½ mm.

Nos. 448, 453. ♀ ad., ♀ imm., Calama, 24, 26. viii. 1907. "Iris red, feet blue-grey or green, bill black."—Wing 85, 82 ; tail 58, 53 ; bill 21½, 20 mm.

In *Nov. Zool.* xiv. 1907. p. 82 I have given a short review of the geographical races of *C. auratus*. Alluding to the singular distribution of *C. a. intermedius*, I said that I could not distinguish Marcapata and Bolivian specimens from the typical Orinoco birds. Since writing this I have had the opportunity of studying the series in Count Berlepsch's Museum, and find that this statement requires modification. Specimens from S.E. Peru and Bolivia are certainly very much like *C. a. intermedius*, and the females agree with the Orinoco ones in having the throat unspotted deep orange ; but the pileum is decidedly paler, sulphur-yellow, without any orange admixture. The three skins from Calama are identical with the Marcapata series except for the ground-colour of the throat being clear orange, as in *C. a. auratus* from Northern Peru, Ecuador, and Bogotá. The throat, in the females, is, however, entirely unspotted. Though I feel pretty sure that the birds from the Rio Madeira, N. Bolivia, and Marcapata, S.E. Peru, constitute a recognizable race, I prefer to await further material before proposing any formal separation, inasmuch as those from the first-named locality may again be different.

340. **Capito aurantiicollis** (Scl.).

Eubucco aurantiicollis Sclater, *Proc. Zool. Soc. Lond.* xxv. 1857. p. 237 (Jan. 1858.—Rio Javarri, N.W. Brazil), descr. ♂ ad.
Capito melanotis (Hartlaub MS.) Sclater, *Ibis* 1861. p. 190 (part. : Ucayali [Hauxwell], Rio Javarri [Bates]), descr. ♀.*

No. 1069. ♂ ad., Calama, 10. ix. 1908. "Iris dark red, feet green, bill yellowish green."—Wing 70 ; tail 45 ; bill 17 mm.

No. 1070. ♀ ad., Calama, 10. ix. 1908. "Iris dark red, bill dark green."—Wing 66 ; tail 43 ; bill 16½ mm.

* The examples from Rio Napo and Bogotá mentioned by Sclater belong to *C. r. richardsoni* Gray and *C. r. granadensis* Shell. respectively. Type of *C. melanotis* is specimen *k* of *C. aurantiicollis* (*Cat Birds Brit. Mus.* xix. p. 116 : ♀, Ucayali, July 1852, J. Hauxwell coll.), marked as such in Mr. Sclater's own handwriting.

The Calama specimens agree perfectly with others from Eastern Peru (Samiria, Ucayali) and the valley of the Rio Juruá.

C. aurantiicollis is nearly allied to *C. r. richardsoni* Gray, of Eastern Ecuador, from which it differs, in the male sex, by having the nape pale yellowish instead of bluish grey, and the foreneck deep orange instead of clear yellow. The female also agrees with that of *C. r. richardsoni* in all essential characters (*i.e.* forehead hoary grey, crown and back olive-green, sides of the head sooty blackish, narrow whitish superciliary streak ending in a golden yellow stripe above and behind the ear-coverts, malar region and throat dingy pale greyish, etc.), but may be readily distinguished by its broader and deep orange, not golden yellow, jugular band. To prevent further confusion, I may state that the description of *C. aurantiicollis*, ♀, in the *Cat. Birds Brit. Mus.* xix. p. 116, has, by some mistake, been drawn up from a female specimen of *C. bourcieri* (Lafr.), while in the key, page 108, its characters are correctly indicated. The specimens *d*, *f*, *h*, *k* of Shelley's list (p. 116), marked "female" by the collectors, do not at all agree with his description, being, however, practically identical with my ♀♀ from Calama and Rio Juruá.

The range of *C. aurantiicollis* is as follows :—

N.W. Brazil: Rio Javarri (Bates), Rio Juruá* (Garbe); Ponto Alegre, Bom Lugar, Canacury on the Rio Purús † (Mus. Goeldi); Calama, Rio Madeira (Hoffmanns). Peru: Sarayaçu, Santa Cruz, Ucayali (Bartlett), Samiria (Hauxwell), Monterico (Jelski).

341. **Ramphastos cuvieri cuvieri** Wagl.

Ramphastos Cuvieri Wagler, *Syst. Av. Gen. Ramphastos* sp. 5 (1827.—"in Brasilia versus flumen Amazonum"—Mus. Monac.); Pelzeln, *l.c.* p. 233 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 399 (Humaytha).

No. 588. ♂ ad., Jamarysinho, 25. ix. 1907.—Wing 245; tail 170; bill 217 mm.

Nos. 302, 492. ♂♀ ad., Calama, 30. vii., 31. viii. 1907.—Wing 247, 230; tail 166, 168; bill 195, 175 mm.

No. 491. ♀ juv., Calama, 31. viii. 1907.—Wing 228; tail 168; bill 152 mm.

No. 1015. (♀) ad., Marmins, 13. vii. 1908.—Wing 230; tail 163; bill 175 mm.

"Iris brown, feet pale blue, bill black, culminal stripe and basal band of upper mandible yellowish green, base of lower jaw light blue."

The specimens agree with the type in the Munich Museum. The black portions of the bill are uniform, without any red patch on the upper mandible. The colour of the upper tail-coverts is somewhat variable, being either sulphur-yellow with darker, more orange tips, or nearly uniform bright orange-yellow. Some specimens show a slight yellowish tinge on the foreneck, while in others the latter is white like the throat.

342. **Ramphastos culminatus** Gould.

Ramphastos culminatus Gould, *Proc. Zool. Soc. Lond.* i. 1833. p. 70 (1833.—"Mexico," errore! hab substit. Rio Solimoëns, Brazil, auct. Berl. & Hart.); Pelzeln, *l.c.* p. 234 (Borba); Hellmayr, *l.c.* p. 399 (Humaytha).

Nos. 593, — . ♀♀, Jamarysinho, 26. ix.; Marmellos (left bank), 27. xii. 1907. "Iris brown, feet light blue, bill black, culminal and basal stripe yellow."—Wing 190, 200; tail 150, 163; bill 138, 149 mm.

* Ihering, *Revist. Mus. Paul.* vi. p. 446.

† Snethlage, *Journ. f. Ornith.* 1908. p. 19.

The Jamarysinho bird has the foreneck tinged with pale yellow, and the upper tail-coverts deep orange with dark red tips ; while in the Marmellos specimen the former is white like the throat, and the upper tail-coverts are sulphur-yellow with the apical portion light orange-yellow. Similar variation is to be observed in Peruvian birds.

[343. **Ramphastos osculans** Gould.

Ramphastos osculans Gould, *Proc. Zool. Soc. Lond.* iii. 1835. p. 156 (1836.—"in Brasiliâ," type in the Vienna Museum, coll. Natterer [cf. *Monogr. Ramph.* 1st edit. pl. 5], sc. Rio Madeira : Ribeirão, Borba *) ; Pelzeln, *l.c.* p. 234 (Ribeirão, Borba).

Right bank : Borba, Ribeirão (Natterer).

Three specimens, including the type, all from Borba, were kindly lent me by the authorities of the Vienna Museum. After comparing them with several skins of *R. culminutus*, I must confess that I am rather doubtful about the distinctness of *R. osculans*. The three examples of the latter differ only by having the throat, foreneck, and cheeks more or less deeply yellow, while these parts in *R. culminatus* are pure white, sometimes with a pale yellow tinge on the lower foreneck. In other respects, notably in the shape of the bill (culmen bounded by a distinct furrow on each side), the two supposed "species" are practically identical. Pelzeln (*l.c.* footnote 1) has already called attention to the great variation in the coloration of the throat, etc., and upper tail-coverts, as shown by Natterer's series. In the three skins before me the colour of the upper tail-coverts varies from sulphur-yellow to scarlet with orange bases, and a similar variation in *R. culminatus* is mentioned above.

What *R. osculans* really is cannot be decided with the limited material at our command. The so-called "*osculans*" from the "Rio Negro" and Munduapo (Orinoco) should also be compared with those from the Rio Madeira.]

[344. **Pteroglossus aracari aracari** (Linn.).

Ramphastos Aracari Linnaeus, *Syst. Nat.* x. p. 104 (1758.—based on Marcgrave's "*Aracari*," *Hist. Nat. Bras.* p. 217 : N.E. Brazil ; cf. *Nov. Zool.* xii. 1905. p. 300).
Pteroglossus Wiedii Pelzeln, *l.c.* p. 235 (Borba).

Right bank : Borba (Natterer).

Specimens from Borba, as well as others from Pará, Maranhão, and Itaitúba (Rio Tapajóz), agree with South Brazilian examples. The northern form, *P. aracari atricollis* (P. L. S. Müll.) (*aracari* of Gould, Sturm, Sclater, etc.), with broad black culminal stripe, is apparently confined to the Guianas.]

345. **Pteroglossus castanotis australis** Cass.

[*Pteroglossus castanotis* Gould, *Proc. Zool. Soc. Lond.* i. 1833. p. 119 (1834.—"Brasilia" ; we fix *Rio Solimoëns* as type locality).]
P. castanotis b, australis Cassin, *Proc. Acad. Nat. Sci. Philad.* 1867. p. 112 (1867.—Rio Paraná—Capt. Page coll.).

No. 478. ♂ ad., Calama, 29. viii. 1907.—Wing 158 ; tail 154 ; bill 133 mm.

Nos. 451, 480. ♀ ♀, Calama, 25, 29. viii. 1907.—Wing 158, 162 ; tail 151, 158 ; bill 115, 125 mm.

Nos. 691, 706. ♂ ♂ ad., S. Isabel, 13, 16. x. 1907.—Wing 160, 155 ; tail 157 ; bill 140 mm.

* Berlepsch & Hartert (*Nov. Zool.* ix. 1902. p. 100) erroneously substituted "Rio Negro" as type locality. Gould, however, based his description upon Natterer's skins.

"Iris white, feet green, bill black, buff and yellow."

The series forms the passage to the northern *P. c. castanotis*, the crown being black without any chestnut tinge, but the sides of the head and throat are coloured as in *australis* from Paraguay and Mattogrosso. Occasionally black-headed examples are also met with in the latter countries.

P. c. australis inhabits the Brazilian central provinces Goyaz and Mattogrosso (north to the Rio Machados), Eastern Bolivia and Paraguay. Cf. *Nov. Zool.* xv. 1908. pp. 84-5.

346. **Pteroglossus bitorquatus sturmii** Natt.

[*Pteroglossus bitorquatus* Vigors, *Zoolog. Journ.* ii. p. 481 (1826.—no locality).]
Pteroglossus Sturmii Natterer in Sturm, *Monogr. Rhamphast.* Heft 3 [p. 13. tab. 7] (1842.—Borba, Rio Madeira); Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 237 (Borba).

Nos. 488, 447. ♂ ad., ♂ fere ad., Calama, 24, 30. viii. 1907. "Iris brown, feet green, upper mandible and tip of lower one yellowish green, remainder of the latter black."—Wing 128, 124; tail 143, 150; bill 100 mm.

No. 410. ♂ juv., Calama, 17. viii. 1907. Soft parts as above.—Wing 118; tail 123; bill 94 mm.

No. 589. ♂ ad., Jamarysinho, Rio Machados, 25. ix. 1907. Soft parts as above.—Wing 124; tail 134; bill 97 mm.

No. 576. ♀ imm., Jamarysinho, 20. ix. 1907. "Iris reddish brown, feet dark green, bill coloured as above."—Wing 122; tail 125; bill 79 mm.

No. 939. ♂ ad., Maruins, Rio Machados, 21. vi. 1908. "Iris dark brown, feet light green, bill yellowish green, lower mandible black."—Wing 123; tail 143; bill 94 mm.

Nos. 905, 938. ♀ ad., ♀ vix ad., Maruins, 4, 21. vi. 1908. "Iris brownish red, feet and bill as above."—Wing 123, 116; tail 140, 131; bill 83 mm.

No. 906. ♀ juv., Maruins, 4. vi. 1908. "Iris reddish brown, feet pale plumbeous, upper mandible dull yellowish, lower one black."—Wing 119; tail 133; bill 79 mm.

This rare species was hitherto represented by a single male specimen in the Vienna Museum, obtained by Natterer, in 1830, near Borba on the right bank of the Rio Madeira.

P. b. sturmii is most nearly allied to *P. b. bitorquatus* from the Pará district, and, like it, has a broad yellow jugular band, but differs by its black lower mandible, the extreme tip only being yellowish. Another difference between the two forms appears to exist in the colour of the eye. Both Natterer and Hoffmanns state the iris to be brown or reddish brown in *P. b. sturmii*, orange or reddish yellow in *P. b. bitorquatus*.

The adult ♂♂ (Nos. 447, 488, 589, 939) have the top of the head glossy black and a large spot on the chin dull black. The upper back is strongly suffused with crimson, and there is a patch of the same colour on the uropygium.

The young male (No. 410) has the red on the mantle and breast duller and less extended, and the upper mandible duller, more greyish yellow. The upper wing-coverts as well as the feathers of the lower back show narrow pale reddish apical margins.

The females differ from the males by having the top of the head dull brownish black, the sides of the head and the throat darker chestnut, and by lacking the blackish chin-spot. Besides, all dimensions are less, especially the bill is much

shorter. In two specimens (Nos. 905, 938) there is a narrow blackish line on the upper mandible, separating the whitish "teeth" from the yellowish colour of the culmen.

The young female (No. 906) is even paler and duller red on the mantle, breast, etc., than the young male (No. 410); the feathers of the pileum are edged with pale red, and the prominent bright reddish yellow lamella at the base of the bill is altogether absent.

The colour of the under tail-coverts is rather variable in *P. b. sturmii*. They are either all pale yellow (Nos. 447, 939), or the longer ones are clear rufescent brown, at least their apical portion.

Nos. 488, 410, 589, 576, 906 are preserved in the Tring Museum, Nos. 939 and 905 passed into the Munich Museum, while Nos. 447 and 938 have been incorporated in the collection of Count Berlepsch.

P. b. sturmii, *P. b. bitorquatus*, and the recently described *P. b. reichenowi* * form a natural group, replacing each other geographically.

(*a*) *P. bitorquatus bitorquatus* Vig. Pará district: Pará, S. Antonio do Prata, Ourèm, etc.

(*b*) *P. bitorquatus reichenowi* Snethl. Lower Amazons: Monte Alegre, Santarem, Cametá, Rio Jamauchim, etc.

(*c*) *P. bitorquatus sturmii* Natt. Right bank of the Rio Madeira from Borba to Calama, and Rio Machados.

[347. **Pteroglossus flavirostris mariae** Gould.

Pteroglossus Mariae Gould, *Monogr. Rhamphast.* ed. 2. pl. 30 (1854.—"the woods clothing the sides of the Lower Amazons," errore! coll. Hauxwell—*Peruvian Amazons* substituted as type locality; cf. Hellmayr, *Nov. Zool.* xiv. p. 83).

P. flavirostris mariae Hellmayr, *Nov. Zool.* xiv. p. 397 (Humaytha).

Left bank: Humaytha (Hoffmanns).

For characters and range of *P. f. flavirostris* and *P. f. mariae* cf. *Nov. Zool.* xiv. 1907. p. 83. Lately, Miss Snethlage† has recorded the latter race from Ponto Alegre, Upper Purús, the most southerly locality as yet known.]

[348. **Pteroglossus inscriptus** Swains.

Pteroglossus inscriptus Swainson, *Zoolog. Illustr.* (1st ser.) ii. pl. 90 (1820-21.—"from the interior of Guyana," errore! we substitute *Pará*); Pelzeln, *l.c.* p. 236 (city of Mattogrosso, Forte do Principe, Rio Guaporé; Borba, Rio Madeira).

Right bank: Borba (Natterer).

Specimens from the Madeira district in the Munich Museum, Natterer coll., agree with a good series from Pará and Maranhão excepting that the black stripe across the sides of the upper mandible immediately preceding the yellow basal lamella is perhaps slightly broader. In the principal character, viz. the greater portion of the lower mandible being yellow, they are exactly like Pará examples. *P. inscriptus* has evidently a wide range in Amazonia, south of the main valley of the Amazons. It is not uncommon in the vicinity of Pará, where Natterer,

* *Pteroglossus reichenowi* Snethlage, *Ornith. Monatsber.* xv. p. 195 (1907.—Monte Alegre).—I am indebted to Count Berlepsch for the loan of a fine specimen secured by Miss Snethlage on the Rio Jamauchim, an eastern confluent of the Rio Tapajóz. This race principally differs by the absence of the yellow jugular band.

† *Journ. f. Ornith.* 1908. p. 20.

Wallace, and others have met with it. Schwanda forwarded a good series from Miritiba, Maranhão, to the Munich Museum. Miss Snethlage found it at Arumatheua, R. Tocantins,* and the late Mr. Hoffmanns obtained an adult male near Itaitúba, R. Tapajóz.† The great Austrian naturalist J. Natterer secured specimens at Borba, on the right bank of the Madeira, as well as at Forte do Principe da Beira and near the city of Mattogrosso, on the Rio Guaporé.]

349. **Pteroglossus humboldti** Wagl.

Pteroglossus Humboldti Wagler, *Syst. Av.* Genus Pteroglossus, sp. 4 (1827.—"Brasilia"—Mus. Monac.—descr. ♂ ad.).

No. 323. ♂ ad., Calama, 3. viii. 1907.—Wing 127; tail 155; bill 95 mm.

"Iris red, feet green, upper mandible yellow, culminal stripe, narrow basal line and teeth black, lower mandible black excepting the yellow basal lamella."

In coloration this bird is practically identical with Wagler's type in the Munich Museum, but slightly smaller (type: wing 132; tail 157; bill 104 mm.). From *P. inscriptus* the two specimens differ in larger size‡ and much longer bill, with the lower mandible almost wholly black. It is very strange to find *P. humboldti* in the same region where Natterer had met with *P. inscriptus*, for we had always looked upon them as geographical representatives. *P. humboldti* is widely distributed in Upper Amazonia from Eastern Ecuador down to Peru and W. Brazil (Rio Purús, etc.). Calama is the most easterly locality as yet on record.

350. **Pteroglossus beauharnaesii** Wagl.

Pteroglossus Beauharnaesii Wagler, *Isis* 1832. p. 280 (1832.—"Brasilia, prov. Pará"—type now in Munich Museum); Hellmayr, *Nov. Zool.* xiv. p. 399 (Humaytha).

Nos. 461, 464. ♀♀ ad., Calama, 26. viii. 1907.—Wing 140, 142; tail 166; bill 109, 97 mm.

Nos. 582, 590. ♀♀ ad., Jamarysinho, 22, 25. ix. 1907.—Wing 146, 150; tail 175, 177; bill 108 mm.

"Iris dark red or brownish red, feet greenish, bill: upper mandible red and pale green, lower one dingy white, tip of both clear yellowish red. Bare space round the eye pale blue."

The specimens differ from the type and other Upper Amazonian skins by the brown spots on the cheeks and throat being absent or but faintly indicated. However, this may be an individual character.

[351. **Selenidera maculirostris gouldii** (Natt.).

[*Pteroglossus maculirostris* Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 7 (1823.—Brasil).]

P. Gouldii Natterer, *Proc. Zool. Soc. Lond.* v. 1837. p. 44 (1837.—Pará in Brazil); Pelzeln, *l.c.* p. 238 (Borba).

Right bank: Borba (Natterer).

As already noticed by Pelzeln, the two specimens obtained in the vicinity of Borba have slightly longer bills and the black blotch at the base of the upper mandible more restricted than typical Pará birds. The difference should be confirmed by additional material.

* *Journ. f. Ornith.* 1908, p. 536.

† Hellmayr, *Nov. Zool.* xiv. p. 26.

‡ Measurements of *P. inscriptus*:—

Three adult males .	Wing 114—120;	tail 134—137;	bill 80—82 mm.
Five adult females .	„ 110—117;	„ 125—135;	„ 65—75 „

S. m. gouldii replaces *S. m. maculirostris* in Lower Amazonia. Its chief character consists of the large, continuous black patch occupying more than the basal half of the upper mandible, while in the South Brazilian race there are several distinctly separated transverse blotches in its stead.]

352. **Coccyzus melacoryphus** Vieill.

Coccyzus melacoryphus **Vieillot**, *Nouv. Dict.* viii. p. 271 (1817.—ex Azara : Paraguay).
Coccygus melanocoryphus **Pelzeln**, *l.c.* p. 273 (Borba).

No. 49. ♀ ad., Calama, 16. vi. 1907. "Iris dark brown, feet bluish black, bill black."—Wing 120 ; tail 141 ; bill 24 mm.

Exactly like specimens from Paraguay and Southern Brazil.

353. **Piaya cayana obscura** Snethlage.

[*Cuculus cayanus* **Linnaeus**, *Syst. Nat.* xii. 1. p. 170 (1766.—ex Brisson : Cayenne).]
Piaya cayana obscura **Snethlage**, *Journ. f. Ornith.* 1908. p. 21 (Jan. 1908.—Bom Lugar, Rio Verde, upper Purús R., W. Brazil).
P. cayana **Pelzeln**, *l.c.* p. 272 (Borba).

No. 246. ♂ imm., Calama, 20. vii. 1907. "Iris clear red, feet light plumbeous, bill greyish green."—Wing 140 ; tail 238 ; bill 27 mm.

This bird answers well to the MS. description drawn up from the typical examples which had been forwarded for my inspection some years ago. *P. c. obscura* resembles, on the lower parts, the well-known *P. c. cayana*, of Cayenne, Guiana, Orinoco region, etc., but the upper surface is much duller, more walnut-brown, less chestnut. Specimens from the Rio Juruá* belong likewise to this form, which would appear to range over a considerable portion of Central Amazonia, though the exact limits of its area are not yet known.

Notwithstanding Mr. Stone's contention,† I am unwilling to unite *P. c. cabanisi* Allen, from Mattogrosso, to *P. c. pallescens* Cab. & Heine, for birds from Chapada are much larger than a series from Minas and Bahia which I believe to represent *pallescens*.

[354. **Piaya melanogastra** (Vieill.).

Cuculus melanogaster **Vieillot**, *Nouv. Dict.* viii. p. 236 (1817.—"Java," errore ! hab. subst. *Cayenne* auct. Berl. & Hart.).
Piaya melanogaster **Pelzeln**, *l.c.* p. 273 (Borba).

Right bank : Borba (Natterer).]

355. **Neomorphus geoffroyi** (Temm.).

Coccyzus geoffroyi **Temminck**, *Rec. Pl. col.* livr. 2. pl. 7 (1820.—no locality ; hab. subst. *Bahia*, East Brazil, auct. Hellm. *Nov. Zool.* xii. p. 298).

No. 31. ♀ ad., Calama, 12. vi. 1907.—Wing 162 ; tail 263 ; bill 43 mm.

No. 1034. ♂ ad., Maruins, 18. vii. 1908.—Wing 164 ; tail 260 ; bill 40 mm.

Nos. 896, 1012. ♀ ♀, Maruins, 1. vi., 13. vii. 1908.—Wing 158, 162 ; tail 258, 265 ; bill 41, 42 mm.

"Iris yellow, feet grey, bill pale grey or greenish."

* *P. cayana cabanisi* (nec Allen) Ihering, *Revist. Mus. Paul.* vi. p. 448.
† *Proc. Acad. N. Sci. Philad.* lx. part 3. publ. Jan. 1909. p. 500.

These specimens agree in every respect with another from Pará. I suspect that both *N. pucherani* (Deville), of Eastern Peru, and *N. salvini* Scl., of Central America, will prove to be geographical representatives of the present species, but have not yet met with either of them.

[356. **Tapera naevia** (Linn.).

Cuculus naevius Linnaeus, *Syst. Nat.* xii. 1. p. 170 (1766.—ex Brisson : Cayenne).
Diplopterus naevius Pelzeln, *l.c.* p. 271 (Borba).

Rio Madeira : Borba (Natterer).]

[357. **Dromococcyx phasianellus phasianellus** (Spix).

Macropus phasianellus Spix, *Av. Bras.* i. p. 53. pl. xlii. (1824.—Tonantins, Rio Solimoëns).
Dromococcyx phasianellus Pelzeln, *l.c.* p. 270 (Borba) ; Hellmayr, *Nov. Zool.* xiv. p. 398 (Borba).

Right bank : Borba (Natterer, Hoffmanns).

Widely distributed in Brazil from S. Paulo, Mattogrosso, and Bahia north to the Amazons. In Venezuela, (Colombia?) and Central America it is replaced by a larger race, *D. phasianellus mexicanus* Bonap. Cf. my remarks in *Abhandl. Bayer. Akad. Wissensch. II. Kl.* xxii. 3. p. 600.]

358. **Ara ararauna** (Linn.).

Psittacus Ararauna Linnaeus, *Syst. Nat.* x. p. 96 (1758.—ex Aldrovandi, Marcgrave, etc. : "in America meridionali").
Sittace ararauna Pelzeln, *l.c.* p. 255 (Borba).

No. —. Ad., Calama, 7. ix. 1907. "Iris pale yellow, feet and bill black, bare skin on face whitish."

359. **Ara macao** (Linn.).

Psittacus Macao Linnaeus, *Syst. Nat.* x. p. 96 (1758.—ex Aldrovandi, Edwards, etc. : "in America meridionali").
Sittace macao Pelzeln, *l.c.* p. 254 (Bananeira, Ribeirão, Borba).
Ara macao Hellmayr, *Nov. Zool.* xiv. p. 405 (Humaytha).

Nos. — —. ♂♂ ad., Calama, 15. vii., 30. viii. 1907. "Iris white, feet black, upper mandible whitish with tip and base of tomiae black, lower mandible black."

360. **Ara severa** (Linn.).

Psittacus severus Linnaeus, *Syst. Nat.* x. p. 97 (1758.—"in Indiis," errore ! we substitute *Surinam* as type locality).

Nos. 240, 241, 487, 511. ♂♂♀♀, Calama, 19. vii., 30. viii., 7. ix. 1907. "Iris yellow, feet and bill black, naked face pale grey."

The specimens agree with others from Cayenne and Venezuela (Caura), the under surface of both remiges and rectrices being bright red.

[361. **Ara manilata** (Bodd.).

Psittacus manilatus Boddaert, *Tabl. Pl. enl.* p. 52 (1783.—ex D'Aubenton, Pl. enl. 864 : Cayenne).
Sittace macavuanna Pelzeln, *l.c.* p. 255 (Borba).

Borba (Natterer). Widely distributed in Amazonia and in the Guianas.]

362. **Conurus weddellii** Deville.

Conurus Weddellii **Deville**, *Rev. Mag. Zool.* (2) iii. p. 209 (1851.—"Pébas, sur le Haut-Amazone");
Hellmayr, *Nov. Zool.* **xiv. p. 404 (Humaytha).**
C. canibuccalis **Rothschild**, *Bull. B. O. C.* **xix. p. 48 (1907.—Humaytha).**

No. 236. ♂ imm., Calama, 17. vii. 1907.—Wing 130; tail 115 mm.

Nos. 648, 569. ♀♀ ad., Jamarysinho, 18. ix. 1907; S. Isabel, Rio Preto, 8. x. 1907.—Wing 140, 142; tail 118 mm.

No. 1068. ♂ ad., Manicoré (Las Onças), 24. viii. 1908.—Wing 140; tail 115 mm.

"Iris dingy white or grey, feet and bill black."

Natterer obtained this species at the sugar-mill of Captain Gama, on the Rio Guaporé.*

363. **Conurus leucophthalmus** (P. L. S. Müll.).

Psittacus leucophthalmus **P. L. S. Müller**, *Natursyst.* **Suppl. p. 75 (1776.—ex D'Aubenton, Pl. enl. 407 : Cayenne).**
Conurus pavua **Pelzeln**, *l.c.* **p. 256 (Borba).**

No. 1066. ♀ ad., Manicoré (Las Onças), 21. viii. 1908.—Wing 169; tail 161 mm.

"Iris clear brown, feet grey, bill pale grey."

No red patches on the cheeks. Agrees with Cayenne and Paraguay examples. Cf. my remarks in *Nov. Zool.* xiv. p. 85.

[364. **Conurus aureus** (Gm.).

Psittacus aureus **Gmelin**, *Syst. Nat.* **1. i. p. 329 (1788.—ex Brisson : ex Edwards, *Gleam.* v. pl. 235 : "supposed to be a native of Brazil").**
Conurus aureus **Hellmayr**, *Nov. Zool.* **xiv. p. 404 (Humaytha).**

Left bank : Humaytha (Hoffmanns).

Widely distributed in Brazil south of the Amazon valley, from Mexiana and Maranhão to Bahia and Northern S. Paulo, but, as far as I know, not yet recorded from any locality west of the Madeira basin.]

365. **Pyrrhura picta amazonum** Hellm.

[*Psittacus pictus* **P. L. S. Müller**, *Natursyst.* **Suppl. p. 75 (1776.—ex D'Aubenton, Pl. enl. 144 : Cayenne).]**
Pyrrhura picta amazonum **Hellmayr**, *Bull. B. O. C.* **xix. p. 8 (1906.—Obidos, Lower Amazons); idem, *Nov. Zool.* xiv. 1907. pp. 36, 37 (Obidos, Santarem).**
Conurus Luciani **(nec Deville) Pelzeln**, *Zur Orn. Bras.* **iii. 1869. p. 259 (Ribeirão, Salto Theotonio).**
C. roseifrons **(nec Gray) Allen**, *Bull. Essex Inst.* **viii. 1876. p. 81 (Santarem).**
Pyrrhura luciani **Ihering & Ihering**, *Cat. Fauna Brazil.* **i. 1907. p. 115 (part. : Santarem) : Snethlage, *Journ. f. Ornith.* 1908. p. 537 (Arumatheua, Tocantins).**
P. picta lucianii **(errore !) Hellmayr**, *Nov. Zool.* **xiv. 1907. p. 404 (Humaytha).**

Nos. 512, 514, 515, 516, 517, 518, 519. ♂♂, ♀♀ ad. et imm., Calama, 4, 6. ix. 1907.—Wing 124—127; tail 105—115; bill 17—19 mm.

No. 812. ♂ juv., Allianca, 10. xii. 1907.—Wing 122; bill 16 mm.

No. 1063. Imm., S. Vicente, Rio Machados, 1. viii. 1908.—Wing 120; tail 107; bill 17 mm.

Nos. 949, 1000—1004, 1037, 1038. ♂♂, ♀♀ ad. et imm., Marmins, 27. vi. 12, 19. vii. 1908.—Wing 120—128; tail 102—117; bill 17—18 mm.

"Iris brown, feet and bill black."

* Pelzeln, *Zur Orn. Bras.* iii. p. 258.

The splendid series now forwarded by Mr. Hoffmanns, comprising both adult and young birds, shows that I was mistaken in identifying his single Humaytha specimen and Natterer's skins as belonging to *P. p. lucianii* (*Nov. Zool.* xiv. p. 404). But as all the examples I then had before me were quite young this error is certainly pardonable. On re-examination and comparison with the fresh material I find that they are unquestionably young birds of *P. p. amazonum*. The latter are **not always** distinguishable from the corresponding stage of *P. p. lucianii*, but, as a rule, they have much more blue on the forehead, and brighter, more golden buff ear-coverts. Adults are of course easily recognizable by having no crimson whatever on the forehead, this being replaced by a rather narrow, dull bluish band, etc., etc. Cf. *Nov. Zool.* xiv. pp. 36–7.

Miss Snethlage (*in litt.*) informs me that the specimen from Arumathena recorded s.n. *P. luciani* is likewise referable to *P. p. amazonum*.

The range of *P. p. amazonum* is thus as follows :—

Arumathena, Tocantins (Snethlage); Lower Amazons: Obidos (Hoffmanns), Santarem (Linden, Garbe); Rio Madeira: Calama, Allianca, Humaytha (Hoffmanns), Ribeirão, Salto Theotonio (Natterer), Maruins and S. Vicente, Rio Machados (Hoffmanns).

366. **Pyrrhura rhodogaster** (Scl.).

Conurus rhodogaster (Natterer MS.) Sclater, *Proc. Zool. Soc. Lond.* 1864. p. 298. pl. xxiv. (1864.—Borba, Rio Madeira); Pelzeln, *l.c.* p. 260 (Borba).

No. 948. ♂ ad., Maruins, 27. vi. 1908. "Iris brown, feet and bill black."—Wing 139; tail 121; bill 20 mm. [Munich Museum.]

This is the first specimen taken since Natterer's time, who discovered this beautiful Parrot at Borba, farther down the river, in 1829. Like *Brotogeris chrysosema*, to be mentioned hereafter, *P. rhodogaster* is peculiar to the Madeira district, the only ascertained localities being Borba and Maruins.

P. rhodogaster is most nearly allied to *P. perlata* (Spix), from Pará and Maranhão, but, besides being larger in all dimensions, differs markedly in coloration. The sides of the chest, the lower breast, as well as the middle of the abdomen, are bright red (instead of green); the cheeks and malar region olive-yellowish (instead of dull blue, passing into greenish anteriorly); the upper wing-coverts, scapulars, inner secondaries, and the flanks dull bluish (instead of bright green). The head above, tail, foreneck and chest, etc., are alike in the two species.

[367. **Psittacula modesta modesta** Cab.

Psittacula modesta Cabanis in Schomburgk, *Reisen Brit. Guiana* iii. p. 727 (1848.—British Guiana; descr. ♀); Allen, *Auk* xx. 1903. p 213 (Saramaca River, Dutch Guiana; crit.).

P. sclateri (nec Gray) Pelzeln, *l.c.* p. 268 (Cachoeira das Pederneiras, Rio Madeira; Marabitanas, upper Rio Negro); Salvadori, *Cat. Birds Brit. Mus.* xx. 1891. p. 244 (part.: specimen *q* ex Oyapoc, Cayenne); Berlepsch & Hartert, *Nor. Zool.* ix. 1902. p. 108 (La Union, Caura, Venezuela).

Upper Madeira: Pederneiras (Natterer).

Through the good offices of Dr. Reichenow I have received for examination the type of *P. modesta* from the Berlin Museum, and found it to be an adult female (without blue on the rump) of the species commonly called *P. sclateri*. The stout, strong bill with the dusky upper mandible, the broad, well-defined, yellowish frontal band, and the clear yellow (not green) throat and sides of the

head prove at first sight its distinctness from *P. guianensis* Sws., which is likewise an inhabitant of British Guiana. Dr. Allen (*l.c.*) has pointed out that a Guiana specimen (*modesta*) differed from another obtained on the Rio Javarri (*sclateri*) "in being of a lighter, more yellowish green below, particularly on the breast. . . ." Examples from Oyapoc (Cayenne), La Union, Caura (Venezuela), Pederneiras (Rio Madeira), and the upper Rio Negro (Marabitanas) are exactly similar to the type of *modesta*, while a series from the Rio Napo, Sarayaçu (Ucayali, Peru), Iquitos, Rio Javarri (type of *sclateri*), and Cosnipata (S.E. Peru) differ in darker and greener general coloration, particularly of the under parts, and darker blue rump of the males. Some of the Iquitos specimens are intermediate; but considered as a whole, the two series may easily be told apart. The range of the two races is as follows:—

(*a*) *P. modesta modesta* Cab.

French Guiana: Oyapoc (Mus. Brit.); Dutch Guiana: Saramaca River (Young); Brit. Guiana (Schomburgk). East Venezuela: La Union, Caura R. (André). North Brazil: Marabitanas, upper Rio Negro; Pederneiras, Rio Madeira (Natterer).

Material: 1 ♀ ad., Brit. Guiana (*type*), Berlin Museum; 1 ♀ ad., Oyapoc, Cayenne, Brit. Mus. (typical Cayenne make!); 1 ♂, 1 ♀, Marabitanas, 1 ♂ ad., Pederneiras, Vienna Museum; 1 ♂ ad., La Union, Caura, in Tring Museum.

(*b*) *P. modesta sclateri* G. R. Gray.

Psittacula Sclateri **Gray**, *List Birds Brit. Mus.* 3. ii. *Psitt.* p. 86 (1859.—**Rio Javarri**).

S.E. Peru: Cosnipata (Whitely). Eastern Peru: Rio Javarri (Bates), Iquitos (Whitely), Sarayaçu, Ucayali (Bartlett). Eastern Ecuador: Rio Napo (W. Jameson).

Material: 3 ♂♂ ad., 1 ♀, Rio Napo, Mus. Brit. and Tring; 1 ♂ ad., Rio Javarri (*type*), Brit. Mus.; 2 ♂♂, Iquitos, 1 ♂, 1 ♀, Cosnipata, 1 ♀, Sarayaçu, in Brit. Mus.]

368. **Brotogeris sanctithomae** (P. L. S. Müll.).

Psittacus st. thomae **P. L. S. Müller**, *Natursyst.* Suppl. p. 81 (1776.—ex D'Aubenton, Pl. enl. 456. fig. 1: "Insel St. Thomae," errore! We substitute *Brazilian Amazons* as type locality).
Brotogerys tui **Pelzeln**, *l.c.* p. 261 (Guajaraguaçu, Borba).
B. sanctithomae **Hellmayr**, *Nov. Zool.* xiv. p. 405 (Humaytha, Paraiso).

Nos. 541, 543, 544. ♂, ♀ ♀ ad., Jamarysinho, 12. ix. 1907.—Wing 109—105; tail 63—60; bill 15—14 mm.

Nos. 813, 814, 822. ♂ ad., ♀ ♀, Marmellos, 15, 17. xii. 1907.—Wing 107—103; tail 59—56; bill 16—15½ mm.

"Iris grey, feet yellowish or reddish grey, bill brown."

Agreeing with Peruvian examples. In none of them is there a yellow streak behind the eye.

369. **Brotogeris chrysosema** Scl.

Brotogerys chrysosema (ex Natterer MS.) Sclater, *Proc. Zool. Soc. Lond.* 1864. p. 298 (1864.—"in Brasilia (Natt.)," sc. Rio Madeira); Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 261 (Rio Madeira, Cachoeira das Pederneiras).

No. 727. ♂ ad., Calama, 25. ix. 1907.—Wing 123; tail 70; bill 24 mm.

No. 373. ♀ ad., Calama, 12. viii. 1907.—Wing 120; tail 66; bill 22 mm.

No. 1018. ♂ ad., Marmins, Rio Machados, 15. vii. 1908.—Wing 120; tail 70; bill 24 mm.

No. 1062. ♂ ad., S. Vicente, Falls of the Rio Machados, 1. viii. 1908.—Wing 121 ; tail 66 ; bill 23 mm.

"Iris brown or dark brown, feet and bill yellowish grey."

This species had never been met with since Natterer's time, who obtained ten specimens in the same district many years ago. *B. chrysosema* is most nearly allied to *B. tuipara* (Gm.), but differs at a glance by having the greater upper wing-coverts golden yellow instead of orange. Moreover, the reddish frontal edge is of a clearer, more orange tint, the orange-red chin-spot rather larger, and the wings are somewhat longer. The other differences mentioned by Dr. Sclater—viz. the more yellowish green colour of the plumage and more bluish crown—are not borne out by Mr. Hoffmanns' series. The couple from Calama show but a very narrow reddish frontal edge, while in the two Machados birds it is fully as broad as in *B. tuipara*. In the males the crown (as far back as the posterior margin of the eye) is more or less washed with pale bluish, whereas the female has the top of the head nearly uniform green.

B. chrysosema is very likely a geographical representative of *B. tuipara*. Up to the present time it is only known from the right bank of the Upper Madeira (Pederneiras to Calama) and its tributary, the Rio Machados.

B. tuipara inhabits the Lower Amazons from Pará to Manáos. Mr. Hoffmanns obtained it at Urucurituba, left bank of the Rio Tapajóz,* Miss Snethlage at Arumatheua, on the Tocantins.† The Munich Museum has lately received five specimens from Miritiba, Maranhão, through Mr. F. Schwanda.

370. **Amazona farinosa farinosa** (Bodd.).

Psittacus farinosus Boddaert, *Tabl. Pl. enl.* p. 52 (1783.—ex D'Aubenton, Pl. enl. 861 : Cayenne).
Chrysotis farinosa Pelzeln, *l.c.* p. 266 (Borba).

No. 310. ♂ ad., Calama, 31. vii. 1907.—Wing 240 ; tail 140 ; bill 43 mm.
No. 194. (♀), Calama, 8. vii. 1907.—Wing 220 ; tail 125 ; bill 41 mm.

"Iris yellow (♂), brown (♀), feet black, bill grey."

The male has the crown uniform light green, while in the other example the forehead is slightly spotted with yellow. Of two adult males obtained by Natterer at Borba, one has a well-defined bright yellow patch on the anterior crown, the other has the upper part of the head uniform green. In another paper ‡ I have already alluded to the variability of this character, which appears to be purely individual, not geographical. The Madeira birds agree, in size and coloration, with a topotypical example from Cayenne and others from Pará.

Specimens from Chiriqui and Western Ecuador do not show the mealy appearance of the upper parts so conspicuous in eastern birds, and may, if this difference be found constant, be separated as *A. farinosa inornata* (Salvad.). §

[371. **Amazona amazonica** (Linn.).

Psittacus amazonicus Linnaeus, *Syst. Nat.* xii. 1. p. 147 (1766.—ex Brisson, Frisch, etc. : "Surinam," errore ! We fix "le pays des Amazones" (ex Brisson) as type locality).
Chrysotis amazonica Pelzeln, *l.c.* p. 266 (Borba).

Right bank : Borba (Natterer).

This beautiful bird has a wide range in Eastern South America, being found

* Hellmayr, *Nov. Zool.* xiv. 1907. p. 28.
† Snethlage, *Journ. f. Ornith.* 1908. p. 537.
‡ *Abhandl. Bayer. Akad. Wissensch. II. Kl.* xxii. 3. 1906. pp. 591-2.
§ *Chrysotis inornata* Salvadori, *Cat. Birds Brit. Mus.* xx. p. 281 (1891.—Veragua).

from Trinidad and Guiana southwards to Rio de Janeiro. Cf. *Abhandl. Bayer. Akad. Wissensch. II. Kl.* xxii. 3. p. 594.]

[372. **Amazona nattereri** (Finsch).

Psittacus (*Chrysotis*) *Nattereri* **Finsch**, *Journ. f. Ornith.* xii. p. 411 (1864.—Cachoeira do Bananeira, Rio Mamoré).
Chrysotis Nattereri **Pelzeln**, *l.c.* p. 266 (Rio Mamoré, Bananeira).

Upper Madeira : Bananeira on the Rio Mamoré (Natterer), September 1829.

The type (an adult male) in the Vienna Museum is still the only known specimen. *A. nattereri* is by no means related to *A. farinosa*, with which Dr. Finsch compared it in the original description, but belongs to the group of *A. aestiva* (Linn.) and *A. ochrocephala* (Gm.), as I have pointed out in *Abhandl. Bayer. Akad. Wissensch. II. Kl.* xxii. 3. p. 593. It resembles these two species in having the edge of the wing and a large wing-speculum bright red, and the base of the inner web of the outer rectrices pale red, but differs from *A. ochrocephala*, with which it agrees in the absence of yellow on the sides of the head, by having a broad, bluish frontal band (instead of a narrow, green edge), and by the sides of the head, throat, and under parts being decidedly bluish green (not pure green or yellowish green). The type measures : wing 122 ; tail 140 ; bill 31 mm.

I have given (*l.c.*) an analytical key, which, I hope, will enable ornithologists to distinguish *A. nattereri* from its allies. Although the type is slightly albinistic, I think there can be no doubt that it represents a perfectly distinct form.]

373. **Amazona festiva** (Linn.).

Psittacus festivus **Linnaeus**, *Syst. Nat.* x. p. 101 (1758.—"in Indiis," errore! We fix as type locality the "Brazilian Amazons"; cf. *Abhandl. Bayer. Akad. Wissensch. II. Kl.* xxii. 3. p. 592).
Chrysotis festiva **Pelzeln**, *l.c.* p. 265 (Borba).

Nos. 381, 506. ♂ ♀ ad., Calama, 12. viii., 2. ix. 1907.—Wing 210 ; tail 110, 108 ; bill 38 mm. "Iris yellow or red, feet and bill grey."

This bird has a rather restricted range in Amazonia, and is not very common in collections. Natterer obtained specimens on the upper Rio Branco, in the Rio Negro district, and near Borba. It also occurs in Eastern Peru, and possibly in Guiana.

374. **Graydidascalus brachyurus** (Kuhl).

Psittacus brachyurus **Kuhl**, *Consp. Psitt.* p. 72 (1820.—"Cajana").
Pionias brachyurus **Pelzeln**, *l.c.* p. 262 (Borba).

No. 432. ♂ ad., Calama, 20. viii. 1907.—"Iris yellowish red, feet grey, bill blackish green."—Wing 148 ; tail 58 ; bill 27 mm.

Slightly larger than a specimen from Manáos, but not otherwise different. Its reported occurrence in Cayenne appears to be open to doubt.

375. **Pionus menstruus menstruus** (Linn.).

Psittacus menstruus **Linnaeus**, *Syst. Nat.* xii. 1. p. 148 (1766.—ex Edwards—hab. ign.—et Brisson : "Guiane," sc. Cayenne).

Nos. 123, 276, 473, 486, 493, 494, 496, 505. ♂♂, ♀♀, Calama, 28. vi., 27. vii., 27, 30, 31. viii., 1. ix. 1907.—Wing 185—200 mm.

Nos. 416. ♂ ad., Calama, island of Sta. Barba, 18. viii. 1907.—Wing 190 mm.

Nos. 537, 592. ♂♂ ad., Jamarysinho, 11, 26. ix. 1907.—Wing 193, 180 mm.

"Iris brown, feet and bill dark grey or black, a large patch at the base of the upper mandible near its lower edge red."

Identical with specimens from Guiana, Venezuela, Eastern Ecuador, etc.

[376. **Pionus fuscus** (P. L. S. Müll.).

Psittacus fuscus P. L. S. Müller, *Natursyst.* Suppl. p. 78 (1776.—ex Edwards, *Glean.* vii. pl. 315, and D'Aubenton, Pl. enl. 408 : Cayenne).
Pionias violaceus Pelzeln, *l.c.* p. 264 (Borba).

Right bank : Borba (Natterer).

Specimens from Borba, Pará, and Manáos do not differ from Guianan ones.]

377. **Pionopsitta barrabandi** (Kuhl).

Psittacus Barrabandi Kuhl, *Consp. Psitt.* p. 61 (1820.—"Brasilia").
Pionias Barrabandi Pelzeln, *l.c.* p. 262 (Salto do Girao).

No. 318. ♀ ad., Calama, 1. viii. 1907.—Wing 163 ; tail 71 ; bill 23 mm.

No. 1061. ♂ ad., S. Vicente, Rio Machados, 1. viii. 1908.—Wing 166 ; tail 77 ; bill 24 mm.

"Iris brown, feet dark grey, bill blackish."

These birds differ from two others from North Brazil by having the cheeks and thighs much more deeply coloured, bright reddish orange. A series from various localities is required to show whether this divergency is individual or geographical. Natterer procured specimens at Salto do Girao, higher up the Rio Madeira, as well as in several places on the upper Rio Negro.

[378. **Gypopsitta vulturina** (Kuhl).

Psittacus vulturinus (Illiger MS.) Kuhl, *Consp. Psitt.* p. 62 (1820.—"Brasilia).
Pionias vulturinus Pelzeln, *l.c.* p. 262 (Borba).

Right bank : Borba (Natterer).

This singular bird has a very limited range,* being hitherto only known from the Pará district, where Wallace and Robert secured several examples, and from Borba, on the Lower Madeira, whence Natterer forwarded two specimens to the Vienna Museum. In coloration it exactly resembles *P. barrabandi*, but may be recognized by its naked head, bordered posteriorly by a broad, light yellow band.]

[379. **Pionites leucogaster xanthomerius** (Scl.).

[*Psittacus leucogaster* (Illiger MS.) Kuhl, *Consp. Psitt.* p. 70 (1820.—"Brasilia," sc. Pará).]
Caica xanthomeria (G. R. Gray MS.) Sclater, *Proc. Zool. Soc. Lond.* xxv. 1857. p. 236 (Jan. 1858.—Rio Javarri).
Pionias xanthomerus Pelzeln, *l.c.* p. 263 (Rio Machados).

Rio Machados (Natterer).

Besides the types in the British Museum, I have examined Natterer's two skins at Vienna, an adult male from the Rio Juruá in Mus. Berlepsch, and a male from Teffé at Tring. Cf. *Nov. Zool.* xiv. p. 89.]

* *G. vulturinus* apud Berl. & Hart., *Nov. Zool.* ix. 1902. p. 110 (Caura, Venezuela), refers to *Deroptyus a. accipitrinus* (Linn.). I have examined the specimens in the Tring Museum.

[380. **Gypagus papa** (Linn.).

Vultur Papa Linnaeus, *Syst. Nat.* x. p. 85 (1758.—ex Edwards & Albin: "India occidentalis," errore! hab. substit. Surinam, aut. Berlepsch).
Sarcorhamphus papa Pelzeln, *l.c.* i. 1867. p. 1 (Borba).

Borba (Natterer).]

381. **Ibycter ater** (Vieill.).

Daptrius ater Vieillot, *Analyse Ornith. élém.* p. 68 (1816.—"le Brésil").
Ibycter ater Hellmayr, *Nov. Zool.* xiv. p. 405 (Borba).

No. 389. ♂ ad., Calama, 13. viii. 1907. "Iris brown, feet yellow, bill black, cere and bare skin of the face bright yellow."

Widely distributed in Amazonia.

[382. **Ibycter americanus** (Bodd.).

Falco americanus Boddaert, *Tabl. Pl. enl.* p. 25 (1783.—ex D'Aubenton, Pl. enl. 417: Cayenne).
Ibycter americanus Pelzeln, *l.c.* p. 2 (Borba).

Right bank: Borba (Natterer). This species has a wide range in tropical South America.]

[383. **Micrastur brachypterus** (Temm.).

Falco brachypterus Temminck, *Rec. Pl. col.* pls. 116 (juv.), 141 (adult) (1822.—"au Brésil, à la Guyane, et au Paraguay").
Micrastur brachypterus Pelzeln, *l.c.* p. 7 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 405 (Borba).

Right bank: Borba (Natterer, Hoffmanns).]

384. **Micrastur mirandollei** (Schlegel).

Astur Mirandollei Schlegel, *Nederl. Tijdschr. Dierk.* i. p. 130 (1863.—Surinam).

No. 775. ♀ ad., Allianca, 11. xi. 1907.—Wing 265; tail 200; tarsus 55; bill (from cere) 24 mm.

"Iris and feet yellow, bill black."

This bird, evidently a very old female, differs from an adult male procured near Pará, in November 1834, by Natterer (one of the types of *M. macrorhynchus* Pelz.*), in the following particulars: the top and sides of the head are black (instead of slate-grey like the back); the feathers of the sides of the body are uniform white, showing no trace of the dusky shaft-lines so conspicuous a feature in the Pará specimen; the light cross-bands of the tail are greyish ash (instead of sepia-brown); the lower mandible is black, not yellow. Otherwise the two examples are very similar, except that the Allianca bird, being a female, is decidedly larger.† In both the lower surface, from the chin to the under tail-coverts, is uniform white.

M. mirandollei is new to the fauna of the Rio Madeira, but it had been obtained at Chyavetas, in Northern Peru, by E. Bartlett,‡ and in various localities in North Brazil by J. Natterer.

* *Reise der Novara, Vögel*, p. 11 (1865.—Barra do Rio Negro; S. Maria do Rio Branco; Pará).
† Natterer's specimen measures: wing 234; tail 194 mm.
‡ Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1867. pp. 753, 759.

385. **Micrastur gilvicollis** (Vieill.).

Sparvius gilvicollis Vieillot, *Nouv. Dict.* x. p. 323 (1817.—loc. ign.: we substitute *Cayenne*: type in Paris Museum examined).
Micrastur gilvicollis Pelzeln, *l.c.* p. 7 (Borba); Hellmayr, *Nov. Zool.* xiv. p. 405 (Borba).

No. 624. ♂ ad., S. Isabel, Rio Preto, 4. x. 1907.—Wing 176; tail 163 mm.

"Iris and feet yellow, bill black, base of lower mandible, cere, and bare space round the eye yellow."

This bird combines the proportion of the toes (outer decidedly longer than inner) of *M. pelzelni* Ridgw.* with the unbarred, uniform white abdomen of *M. gilvicollis*. Another (immature) specimen, secured by Mr. Hoffmanns on his first journey to the Madeira district, is, however, typical of *gilvicollis*. I am sorry to say that, after examining large series of these birds, I am unable to distinguish between *M. gilvicollis* and *M. pelzelni*. The differences put forward by Mr. Ridgway in his "Monograph of the Genus Micrastur,"† the most comprehensive and elaborate paper ever published on these puzzling birds, are evidently individual variations of the same species. This is conclusively proved by a series of twelve adults from British Guiana (Quonja, Bartica Grove, Camacusa, River Carimang; H. Whitely, jun., coll.) in the British Museum. Six specimens have the inner and outer toes nearly of equal length, a feature claimed by Ridgway for *M. concentricus* (= *gilvicollis* Vieill.). In two of them the lower breast, abdomen, and under tail-coverts are unbarred white, in three others (♂ Camacusa, ♂ ♀ Bartica Grove) the latter show more or less distinct dusky cross-lines, while a female from Quonja has all the under parts (except throat) regularly and even more broadly banded with blackish than the type of *M. pelzelni*. The six other examples have the outer toe decidedly longer than the inner one ("*pelzelni*"); the amount of dusky barring on the belly presents the same variation as described above. It must be admitted that the type of *M. pelzelni* (♂ ad., Sarayaçu, Ucayali, Eastern Peru; E. Bartlett coll., August 2, 1865: Brit. Mus.) has the throat slightly greyer, but other Peruvian skins, particularly an adult male from Iquitos, do not differ in this respect from the Guianan series, some of which are, besides, decidedly intermediate in the proportion of the lateral toes.

[386. **Dinospizias pectoralis** (Bonap.).

Astur pectoralis Bonaparte, *Rev. Mag. Zool.* (2) ii. p. 490 (1850.—"Brésil"); Pelzeln, *l.c.* p. 6 (Borba).

Right bank: Borba (Natterer).

This remarkable species seems to me generically distinct from any of the American Accipiters. Natterer, besides one at Borba, obtained two examples in the vicinity of Ypanema, S. Paulo. Euler forwarded a single adult male from Cantagallo, prov. Rio de Janeiro, to the Berlin Museum,‡ and Count Berlepsch possesses a Bahia skin. Although very rare in collections, it appears to be rather widely distributed in Brazil.]

387. **Accipiter superciliosus** (Linn.).

Falco superciliosus Linnaeus, *Syst. Nat.* xii. 1. p. 128 (1766.—Surinam: juv.).
Accipiter tinus auct.

No. 943. ♀ imm., Maruins, 22. vi. 1908. "Iris and feet yellow, bill black."—Wing 135; tail 98 mm.

* *Proc. Acad. Nat. Sci. Philad.* 1875. p. 494 (Sarayaçu, Upper Ucayali, E. Peru).
† *Proc. Acad. Nat. Sci. Philad.* 1875. pp. 470-502.
‡ Cabanis, *Journ. f. Ornith.* 1874. p. 228.

I agree with Mr. Ridgway* that there is no reason for rejecting Linnaens' name, which is accompanied by a much better description than Latham's generally accepted term *tinus*.†

A. superciliosus has a wide range in tropical South America.

[388. **Asturina nitida nitida** (Lath.).

Falco nitidus Latham, *Ind. Orn.* i. p. 41 (1790.—Cayenne).
Asturina nitida Pelzeln, *l.c.* p. 3 (Borba).

Right bank: Borba (Natterer).

Generally distributed over tropical South America from Southern Brazil north to Guiana and Panama.]

389. **Rupornis magnirostris magnirostris** (Gm.).

Falco magnirostris Gmelin, *Syst. Nat.* 1. i. p. 282 (1788.—ex D'Aubenton, Pl. enl. 464: Cayenne).
Astur macrorhynchus Pelzeln, *l.c.* p. 6 (Borba).
Rupornis m. magnirostris Hellmayr, *Nov. Zool.* xiv. p. 406 (Humaytha).

No. 510. ♀ ad., Calama, 3. ix. 1907.—Wing 225; tail 154 mm.
No. 882. ♀ ad., Marmellos (left bank), 29. xii. 1907.—Wing 223; tail 157 mm.
No. 327. ♀ juv., Calama, 2. viii. 1907.
"Iris and feet yellow, bill black, cere yellow."

The adult female from Calama is typical of *magnirostris*, agreeing perfectly with our large series from Cayenne and Venezuela (Caura). The chest is ashy, slightly tinged with pale fulvescent, and the cross-bars of the lower breast and belly are light rufescent brown. The Marmellos bird, on the other hand, is much more rufous underneath, the chest being bright cinnamon and the cross-bands of the belly and thighs being more deeply rufescent. It is practically identical with an adult bird from El Loreto, Rio Napo, Eastern Ecuador, in the Munich Museum, while other specimens from the same district closely resemble typical *magnirostris*. Two adult males from the Rio Purús, and an adult female from the Upper Ucayali, have similarly coloured under parts to those of the Marmellos example. Without additional material it is impossible to say whether these rufous specimens are merely intergrades between *magnirostris* and *nattereri* (from the latter of which they are not easily distinguishable) or represent a constant, peculiar race.

[390. **Busarellus nigricollis** (Lath.).

Falco nigricollis Latham, *Ind. Orn.* i. p. 35 (1790.—Cayana).
Busarellus nigricollis Hellmayr, *Nov. Zool.* xiv. p. 406 (Humaytha).

Left bank: Humaytha (Hoffmanns).]

[391. **Urubitinga urubitinga** (Gm.).

Falco urubitinga Gmelin, *Syst. Nat.* 1. i. p. 265 (1788.—ex Brisson: ex Marcgrave: Eastern Brazil).
Urubitinga brasiliensis Pelzeln, *l.c.* p. 2 (Cachoeira do Madeira, Borba).

Cachoeira do Madeira, Borba (Natterer).

Ranges all over tropical America from Paraguay to Costa Rica.]

* *Bull. U.S. Geol. and Geog. Surv. Terr. for April* 1876. ii. No. 2. p. 126.
† *Ind. Ornith.* i. 1790. p. 50 (Cayenne).

[392. **Leucopternis schistacea** (Sundev.).

Asturina schistacea Sundevall, *Öfvers Vetenskapsak. Förhandl.* vii. No. 5. p. 132. note 3 (1850.—"Brasilia").
Urubitinga schistacea Pelzeln, *l.c.* p. 2 (Borba).
Leucopternis schistacea Hellmayr, *Nov. Zool.* xiv. p. 406 (Humaytha).

Left bank: Humaytha (Hoffmanns); right bank: Borba (Natterer).

This is an exclusively Amazonian species. Natterer, in addition to the one from Borba, obtained a second specimen at Manáos; E. Bartlett secured several on the banks of the Ucayali, Peru; and the U.S. Museum of Washington possesses an adult male sent by J. Hauxwell from Pebas, Peru,* etc.]

[393. **Leucopternis albicollis** (Lath.).

Falco albicollis Latham, *Ind. Orn.* p. 36 (1790.—Cayana).
Leucopternis albicollis Pelzeln, *l.c.* p. 3 (Bananeira, Borba).

Rio Madeira: Bananeira, Borba (Natterer).

This bird is only found in Amazonia, Guiana, and Trinidad.]

394. **Leucopternis kuhli** Bonap.

Leucopternis Kuhli Bonaparte, *Consp. Av.* i. p. 19 (1849.—no locality).
L. superciliaris Pelzeln, *l.c.* p. 3 (Borba.)

No. 909. ♀ vix ad., Marmins, 5. vi. 1908. "Iris deep yellow, feet yellow, bill blackish, cere orange."—Wing 218; tail 152; bill (from the anterior edge of the cere) 25 mm.

This bird is not quite adult, some of the upper tail- and upper wing-coverts being narrowly fringed with rufescent.

L. kuhli is as yet only known from the vicinity of Pará, and from the right bank of the Rio Madeira (Borba, Maruins). Cf. *Nov. Zool.* xiii. 1906. pp. 382–3.

[395. **Thrasaëtus harpyia** (Linn.).

Vultur Harpyia Linnaeus, *Syst. Nat.* xii. 1. p. 121 (1766.—ex Hernandez & Marcgrave: Mexico).
Morphnus Harpyia Pelzeln, *l.c.* p. 4 (Borba).

Left bank: opposite Borba (Natterer).]

[396. **Spizaëtus tyrannus** (Wied).

Falco tyrannus Wied, *Reise Brasil.* i. p. 360 (1820.—Quartel dos Arcos, Rio Belmonte, Bahia, East Brazil).
Spizaëtus Tyrannus Pelzeln, *l.c.* p. 4 (Borba).

Right bank: Borba (Natterer).]

[397. **Spizaëtus ornatus** (Daud.).

Falco ornatus Daudin, *Traité d'Orn.* ii. p. 77 (1800.—ex Levaillant: Cayenne).
Spizaëtus ornatus Pelzeln, *l.c.* p. 4 (Borba).

Right bank: Borba (Natterer).]

* Ridgway, *Bull. U.S. Geol. and Geo. Surv. Terr. for April* 1876. ii. No. 2. p. 172.

[398. **Herpetotheres cachinnans** (Linn.).

Falco cachinnans **Linnaeus**, *Syst. Nat.* x. p. 90 (1758.—ex Rolander : "America meridionalis," hab. subst. Surinam, auct. Berlepsch, *Nov. Zool.* xv. p. 290).
Herpetotheres cachinnans **Pelzeln**, *l.c.* p. 7 (Borba).

Right bank : Borba (Natterer).]

399. **Elanoides forficatus** (Linn.).

Falco forficatus **Linnaeus**, *Syst. Nat.* x. p. 89 (1758.—ex Catesby : Carolina).

Nos. 689, 690, 694. ♂♂ ad., S. Isabel, Rio Preto, 12, 14. x. 1907.—"Iris brown, feet dark grey, bill black."

This is a common winter visitor to Brazil. Natterer met with it near Pará and at various localities in S. Paulo.*

400. **Leptodon uncinatus** (Temm.).

Falco uncinatus **Temminck**, *Rec. Pl. col.* tab. 103, 104, 115 (1822.—"depuis les environs de Rio-de-Janeiro jusque vers le nord du Brésil et dans toute la Guiane").

No. 521. Juv. (not sexed), Calama, 7. ix. 1907.—Wing 285; tail 200 mm.
"Iris bluish white, feet yellow, bill black."
Identical with specimens in corresponding plumage from Guiana, etc.

401. **Gampsonyx swainsonii** Vig.

Gampsonyx Swainsonii **Vigors**, *Zoolog. Journ.* ii. p. 69 (1825.—Bahia, Brazil).

No. 438. ♀ imm., Calama, 22. viii. 1907.—"Iris red, feet yellow, bill black."—Wing 165 ; tail 102 mm.

Not different from Venezuelan (Canra) specimens. This little Falcon has a wide range in Central and South America.

402. **Harpagus bidentatus** (Lath.).

Falco bidentatus **Latham**, *Ind. Orn.* i. p. 38 (1790.—"Cayana").
Harpagus bidentatus **Pelzeln**, *l.c.* p. 5 (Salto Girao, Borba).

No. 270. ♂ juv., Calama, 25. vii. 1907.—"Iris yellowish red, feet yellow, bill black."

This bird is in transition from the white-bellied juvenile plumage into the rufous-bellied of the adult. The thighs are buffy white.

403. **Ictinia plumbea** (Gm.).

Falco plumbeus **Gmelin**, *Syst. Nat.* 1, i. p. 283 (ex Latham : Cayenne).
Ictinia plumbea **Hellmayr**, *Nov. Zool.* xiv. p. 406 (Humaytha).

No. 358. ♂ ad., Calama, 9. viii. 1907.—Wing 280 ; tail 130 mm. "Iris red, feet yellow, bill black."

[404. **Lophostrix cristata** (Dand.).

Strix cristata **Daudin**, *Traité d'Orn.* ii. p. 207 (1800.—"Guiane" sc. Cayenne).
Bubo cristatus **Pelzeln**, *l.c.* p. 9 (Borba).

Right bank : Borba (Natterer).
Ranges from Guiana to Lower Amazonia and Eastern Ecuador.]

* Pelzeln, *Orn. Bras.* i. 1867. p. 6 : *Nauclerus furcatus.*

[405. **Otus* watsonii** (Cass.).

Ephialtes Watsonii Cassin, *Proc. Acad. Philad.* iv. p. 123 (Dec. 1848.—"South America"); *Journ. Acad. Philad.* ii. pt. ii. Jan. 1852. p. 95. tab. xii. fig. 1.
Pisorhina Watsonii Hellmayr, *Nov. Zool.* xiv. p. 407 (Humaytha).
Ephialtes atricapillus Pelzeln, *l.c.* p. 9 (part.: Engenho do Gama, Matogrosso, Rio Guaporé; Borba, Rio Madeira; Rio Negro).

Right bank: Borba (Natterer); left bank: Humaytha (Hoffmanns).

Dr. Lorenz has kindly sent me four of Natterer's specimens (♂ ad., Rio Negro, January 13, 1831; ♂ ♀ ad., Borba, July 1830; ♂ ad., Borba, March 1830). Two agree perfectly with Hoffmanns' skin from Humaytha and others from Eastern Ecuador, while a male from Borba is rather paler underneath. The fourth example (♂, Borba) is in the rufous phase. *O. watsonii* is perfectly distinct from *O. c. crucigerus*, as pointed out by me *l.c.*

S. atricapilla Temm.,† based upon a Nattererian skin from Rio, is evidently the same as *Scops sanctae-catarinae* Salv.,‡ over which name it has priority by many years.]

[406. **Otus choliba crucigera** (Spix).

[*Strix choliba* Vieillot, *Nouv. Dict.* vii. p. 39 (1817.—ex Azara No. 48: Paraguay).]
Strix crucigera Spix, *Av. Bras.* i. p. 22. pl. ix. (1824.—"juxta flumen Amazonum").
Ephialtes Choliba Pelzeln, *l.c.* p. 9 (Borba).

Borba (Natterer).

The single specimen in the Vienna Museum seems best to agree with the Amazonian race. Cf. *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. p. 575.]

[407. **Glaucidium brasilianum brasilianum** (Gm.).

Strix brasiliana Gmelin, *Syst. Nat.* 1. i. p. 289 (1788.—ex Brisson: ex Marcgrave—Eastern Brazil).
Athene ferruginea Pelzeln, *l.c.* p. 9 (Borba).

Right bank: Borba (Natterer).]

[408. **Asio stygius** (Wagler).

Nyctalops stygius Wagler, *Isis* 1832. p. 1221 (1832.—"in Brasilia sive in Africa meridionali"—Mus. Eichstätt. The type, now in the Munich Museum, is marked "Brazil from the province *Minas Geraës*").
Otus stygius Pelzeln, *l.c.* p. 10 (Borba).

Right bank: Borba (Natterer).

This singular species ranges throughout Brazil from the Rio Negro southwards to Rio Grande do Sul. Having never seen Cuban specimens, I cannot say whether they are really identical with the Brazilian ones.]

[409. **Syrnium superciliare** Pelz.

Syrnium superciliare Pelzeln, *Verhandl. Zool. Bot. Gesellsch. Wien* xiii. p. 1125 (1863.—City of Mattogrosso, Rio Guaporé); Hellmayr, *Nov. Zool.* xiv. p. 407 (Borba).

Right bank: city of Mattogrosso (Natterer), Borba (Hoffmanns).
Also recorded from Pará (Wallace).]

* *Otus* takes the place of *Pisorhina* and *Scops*. Cf. Allen, *Bull. Amer. Mus. N. York* xxiii. 1907. p. 334.

† *Strix atricapilla* Temminck, *Pl. col.* livr. 25. pl. 145 (1822.—"Brésil—Musée de Vienne").

‡ Salvin, *Bull. B. O. C.* vi. p. xxxvii. (1897.—Southern Brazil).

410. **Pulsatrix perspicillata** (Lath.).

Strix perspicillata Latham, *Ind. Orn.* i. p. 58 (1790.—ex "Spectacle Owl" Latham, *Gen. Syn. Birds* Suppl. p. 50. tab. cvii. = juv. : Cayenne).
Pulsatrix perspicillata Hellmayr, *Nov. Zool.* xiv. p. 406 (Humaytha).
Athene torquata Pelzeln, *l.c.* p. 8 (Borba).

No. 1026. ♀ ad., Maruins, 19. vii. 1908. "Iris yellow, feet grey, bill greenish yellow."—Wing 320 ; tail 200 mm.

[411. **Ciccaba huhula huhula** (Daud.).

Strix huhula Daudin, *Traité d'Orn.* ii. p. 190 (1800.—ex Levaillant, *Ois. d'Afr.* i. pl. 41 : Cayenne).
Athene huhula Pelzeln, *l.c.* p. 8 (Borba).

Right bank : Borba (Natterer).

This specimen agrees well with others from Cayenne and Rio de Janeiro in the collection of the Munich Museum.]

[412. **Columba speciosa** Gm.

Columba speciosa Gmelin, *Syst. Nat.* 1. ii. p. 783 (1789.—ex D'Aubenton, Pl. enl. 213 : Cayenne).
Lepidoenas speciosa Pelzeln, *l.c.* p. 274 (Ribeirão).

Rio Madeira : Ribeirão (Natterer).

Ranges as far as Mattogrosso in the south, and to Pará in the east.]

413. **Columba rufina sylvestris** Vieill.

[*Columba rufina* Temminck & Knip, *Pigeons* i., fam. sec., p. 59. pl. 24 (1808-11.—"la Guyane française").]
C. sylvestris Vieillot, *Nouv. Dict.* xxvi. p. 366 (1818.—ex. Azara, No. 319 : Paraguay) ; see Chubb, *Ibis* 1910. p. 59 (crit. & hab.).

No. 500. ♂ ad., Calama, 1. ix. 1907. "Iris yellow, feet red, bill black."—Wing 185 ; tail 105 ; bill 18 mm.

This bird agrees with South Brazilian skins in having the basal portion of the rectrices dull blackish, in decided contrast to the pale cinereous apical band, and the under tail-coverts light slate-grey. Mr. Chubb (*l.c.*) having ascertained that Paraguayan examples are the same as those from Brazil, there is no longer any doubt about the proper application of the name *sylvestris*. The dark-tailed form appears to range, in the north, as far as Pará and Mexiana Island, though I have not examined specimens from these places.

414. **Columba plumbea pallescens** Snethl.

[*Columba plumbea* Vieillot, *Nouv. Dict.* xxvi. p. 358 (1818.—"rapporté du Brésil par M. Delalande fils"—sc. Rio de Janeiro).]
Columba plumbea pallescens Snethlage, *Journ. f. Ornith.* lvi. p. 22 (1908.—Bom Lugar, Rio Purús—type examined).
Chloroenas plumbea Pelzeln, *l.c.* p. 275 (part. : "var. subtus colore vinaceo induta"—Engenho do Gama, Borba).

No. 529. ♂ ad., Jamarysinho, 9. ix. 1907.—Wing 164 ; tail 130 ; bill 15 mm.
No. 528. ♀ ad., Jamarysinho, 9. ix. 1907.—Wing 160 ; tail 136 ; bill 14 mm.
No. 781. ♂ ad., Allianca, 12. xi. 1907.—Wing 167 ; tail 140 ; bill 14 mm.
"Iris brown, feet dark red, bill black."

These birds are undoubtedly distinct from *C. p. plumbea* Vieill., of Eastern Brazil (Bahia to Santa Catharina) and *C. p. baeri* Hellm., from the state of Goyaz. From the former they differ in their much smaller size, slenderer as well as shorter bill, and by having the head, neck, and lower parts bright lilac, while *C. p. baeri* may be recognized by its pearl-grey under surface, etc. The female from Jamarysinho is rather more vinaceous on both head and lower parts than the males, agreeing in that respect with a male obtained by Natterer at Engenho do Gama, on the Rio Guaporé. A second male and a female from the last-named locality are again somewhat different, being much paler in coloration, especially the female, which appears to agree with the description of *C. p. pallescens*. Some years ago I examined the type of Miss Snethlage's race and found it nearly identical with a bird from Pará.

C. p. pallescens from Amazonia is, however, exceedingly close to *C. p. bogotensis* Berl. & Lev.,* though Colombian specimens seem to be rather larger and to have a greyish tinge on the crown. Without large series from different localities it will be impossible to arrive at definite conclusions respecting the various races of the *plumbea* group.

[415. **Columbula picui picui** (Temm.).

Columba picui Temminck, *Hist. Nat. Pig. et Gall.* i. pp. 435, 498 (1813.—ex Azara, No. 324: Paraguay).
Columbula picui Hellmayr, *Nov. Zool.* xiv. p. 408 (Humaytha).

Left bank: Humaytha (Hoffmanns).

The female obtained by Mr. Hoffmanns agrees with others from Bahia and Argentine. In North-Eastern Brazil: Piauhy and Ceará, the typical race is replaced by *C. picui strepitans* (Spix). Cf. Hellmayr, *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. 1906. p. 696, and Chubb, *Ibis* 1910. pp. 61–2.]

416. **Columbina † talpacoti** (Temm. & Knip).

Columba talpacoti Temminck & Knip, *Hist. Nat. Pigeons* i., fam. trois., p. 22. pl. xii. [s.n. "*C. minuta*"] (1808-11.—"l'Amérique méridionale").

Nos. 294, 729, 732. ♂ fere ad., ♂♂ juv., Calama, 26, 29. x. 1907.—Wing 89—90; tail 66—69; bill 11—12 mm.

Nos. 1056, 1057, 1058, 1059. ♂ vix ad., ♂♂ imm., ♀, Maruins, 24, 25. vii. 1908.—Wing 87—91; tail 64—69; bill 12 mm.

"Iris yellow or pale brown (294), feet flesh-colour or greyish red, bill black."

New to the fauna of the Rio Madeira, but Natterer ‡ had secured it at São Vicente, Rio Guaporé, in the vicinity of Pará, etc., etc.

417. **Leptotila rufaxilla** (Richard & Bernard).

"*Columba* (*Rufaxilla*)" Richard et Bernard, *Act. Soc. d'Hist. Nat. Paris* 1. i. p. 118. No. 74 (1792—Cayenne).
Leptoptila rufaxilla Pelzeln, *l.c.* p. 279 (Borba).

No. 299. ♂ ad., Calama, 30. viii. 1907. "Iris yellowish grey, feet red, bill black."—Wing 140; tail 105; bill 16 mm.

Agrees well with Guianan specimens.

* *Ornis* vi. p. 32 (1890.—Bogotá).
† Cf. Allen, *Auk* xxv. 1908. pp. 301-6.
‡ *Orn. Bras.* iii. p. 277.

418. **Geotrygon montana** (Linn.).

Columba montana Linnaeus, *Syst. Nat.* x. p. 163 (1758.—ex Edwards & Sloane : Jamaica).
Oreopeleia montana Pelzeln, *l.c.* p. 279 (Borba).
Geotrygon montana Hellmayr, *Nov. Zool.* xiv. p. 407 (Humaytha).

Nos. 268, 286, 357, 394, 437. ♂♂ juv., ♀♀ juv., Calama, 25, 29. vii., 8, 15, 20. viii. 1907.

No. 777. ♂ juv., Allianca, 11. xi. 1907.

"Iris greyish or yellowish brown, feet light red, bill reddish grey."

419. **Odontophorus gujanensis gujanensis** (Gm.).

Tetrao gujanensis Gmelin, *Syst. Nat.* 1. ii. p. 767 (1789.—ex Buffon : Cayenne).
Odontophorus guianensis Pelzeln, *l.c.* p. 289 (S. Vicente, Rio Guaporé ; Forte do Principe da Beira, Borba, Rio Madeira).

No. 684. ♀ ad., S. Isabel, Rio Preto, 12. x. 1907.—Wing 135 ; tail 64 ; bill 17 mm. "Iris brown, feet blackish brown, bill black."

This bird agrees well with Cayenne skins, but the dusky vermiculations of the under parts are slightly less distinct, and there is very little dusky spotting on the lower back and rump. The bill, too, is somewhat deeper and stouter. Whether separable from *gujanensis* or not, it is quite distinct from *O. g. marmoratus* Gould, of Bogotá, etc. The latter has been recorded by Miss Snethlage* from the R. Tapajóz, but this can hardly be correct, for specimens from the Pará district belong with *O. g. gujanensis*. Cf. *Nov. Zool.* xii. p. 304.

420. **Odontophorus stellatus** Gould.

Ortyx (*Odontophorus*) *stellatus* Gould, *Proc. Zool. Soc. Lond.* x. 1842. p. 183 (Feb. 1843.—Brazil).
Odontophorus stellatus Pelzeln, *l.c.* p. 290 (Bananeira, Borba).

No. 735. ♂ ad., Calama, 30. x. 1907.—Wing 146 ; tail 75 ; bill 22 mm.

No. 509. ♂ imm., Calama, 3. ix. 1907.—Wing 149 ; bill 22 mm.

Nos. 734, 574. ♀♀ ad., Calama, 30. x. 1907 ; Jamarysinho, 19. ix. 1907.—Wing 132, 136 ; tail 66, 67 ; bill 18, 20 mm.

"Iris pale brown, feet light green, bill black or dark grey."

O. stellatus is an Upper Amazonian type, ranging from the Napo and Eastern Peru to the Madeira Valley, but does not appear to occur farther east.

[421. **Crax globulosa** Spix.

Crax globulosa Spix, *Av. Bras.* ii. p. 50. pls. lxv. (mas.), lxvi. (fem.) (1825.—"in sylvis fl. Solimoëns") ; Pelzeln, *l.c.* p. 288 (Rio Guaporé ; Bananeira, Piori, Salto Theotonio, Borba, Rio Madeira).

Rio Madeira : Bananeira, Piori, Salto Theotonio, Borba (Natterer). Cf. my remarks in *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. pp. 683–4.]

422. **Mitu mitu** (Linn.).

Crax mitu Linnaeus, *Syst. Nat.* xii. 1. p. 270 (1766.—ex Marcgrave, p. 194 : "Mitu"—N.E. Brazil ; cf. *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. p. 688).
Ourax mitu Pelzeln, *l.c.* p. 288 (Salto Theotonio, Borba).

No. 586. ♂ ad., Jamarysinho, 22. ix. 1907. "Iris dark red, feet yellowish red, bill clear red."

Agreeing with Spix's type in the Munich Museum.

* *Journ. f. Ornith.* 1908. p. 516.

[423. **Penelope superciliaris superciliaris** Temm

Cf. *Nov. Zool.* xiv. p. 408 (Borba).
P. superciliaris var. Pelzeln, *l.c.* p. 283 (Borba).

Right bank : Borba (Natterer, Hoffmanns).

Two birds in the Vienna Museum and a third at Tring have the ashy superciliary stripe barely indicated, while in a series from Bahia, Rio de Janeiro, S. Paulo, and Mattogrosso (Chapada) it is well developed. However, cf. my remarks *l.c.* p. 408.]

[424. **Penelope pileata** Wagl.

Penelope pileata Wagler, *Isis* 1830. p. 1109 (1830.—"in Brasiliae provincia Pará") ; Pelzeln, *l.c.* p. 282 (Rio Madeira).

Rio Madeira (Natterer).

This specimen I have examined in the Vienna Museum.]

425. **Penelope jacqúaçu** Spix.

Penelope jacquaçu Spix, *Av. Bras.* ii. p. 52. pl. lxviii. (1825.—"in sylvis fluminis Solimoëns") ; Hellmayr, *Nov. Zool.* xiv. p. 408 (Humaytha).
P. Boliviana Pelzeln, *l.c.* p. 282 (Salto do Girao).

Nos. 548, 572, 573. ♂♂ ad., Jamarysinho, 13, 19. ix. 1907. "Iris brown, feet dark red, bill black, naked space on throat bright red."—Wing 280—300 ; tail 315—330 mm.

The specimens agree with Spix's type in the Munich Museum. This also is an Upper Amazonian species, the easterly limit of its range being apparently the Madeira Valley.

426. **Ortalis guttata** (Spix).

Penelope guttata Spix, *Av. Bras.* ii. p. 55. pl. lxxiii. (1825.—"ad flumen Solimoëns").
Ortalida albirentris (nec Wagler) Pelzeln, *l.c.* p. 286 (Engenho do Gama, S. Vicente, Matogrosso, Forte do Principe, Rio Guaporé ; Salto do Girao, Borba, Rio Madeira).

No. 479. ♂ ad. (moulting), Calama, 29. viii. 1907.—Wing 184 ; tail 207 ; bill 27 mm.

No. 568. ♂ ad., Jamarysinho, 18. ix. 1907.—Wing 185 ; tail 214 ; bill 25 mm. "Iris brown, feet reddish grey, bill black."

In addition, I have examined Natterer's series in the Vienna Museum. The Madeira skins agree in every respect with Spix's type. Cf. *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. 1906. pp. 691–2.

Like the foregoing species, *O. guttata* is an Upper Amazonian form, ranging eastwards as far as the Madeira Valley.

427. **Tinamus tao** Temm.

Tinamus tao Temminck, *Hist. Nat. Pig. et Gallin.* iii. p. 569 (1815.—"dans la province de Pará en Brésil") ; Pelzeln, *l.c.* iii. p. 290 (Cidade de Matogrosso, Rio Guaporé ; Borba, Rio Madeira).*

No. 547. ♂ ad., Jamarysinho, 13. ix. 1907.—Wing 280 ; tail 120 ; bill 38 mm.
No. 546. ♀ ad., Jamarysinho, 13. ix. 1907.—Wing 275 ; tail 140 ; bill 38 mm.
"Iris brown, feet plumbeous, bill grey."

* "Miranha," cited by Salvadori (*Cat. Birds* xxvii. p. 498), is not a locality, but the name of one of the Indians employed by Natterer!

These specimens, as well as several others examined in the Vienna Museum, correspond exactly to Temminck's original description. The upper parts are bluish slate-grey, waved with black cross-lines and bars, broader on the rump and upper tail-coverts ; on each side of the occiput and hindneck a distinct longitudinal stripe, banded black and white ; throat and cheeks white, dotted and freckled with black ; foreneck slate-grey, breast and abdomen paler, more ashy, waved and banded with blackish ; under tail-coverts deep ochraceous cinnamon, mottled with black. Whether the examples from Venezuela (San Esteban) and Bogotá described by Salvadori (*l.c.*) as having the "upper parts greyish olive," and the under tail-coverts "grey, rufescent along the middle," belong to the same species appears to be open to doubt.

428. **Tinamus serratus serratus** (Spix).

Pezus serratus Spix, *Av. Bras.* ii. p. 61. pl. lxxvi. (1825.—"in sylvis campestribus fl. *Nigri*") ; Hellmayr, *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. 1906. pp. 699, 719 (crit.).
Tinamus serratus serratus Hellmayr, *Nov. Zool.* xiv. p. 408 (Humaytha).
T. brasiliensis (nec Latham) Pelzeln, *l.c.* iii. p. 291 (Matogrosso, Rio Guaporé ; Bananeira, Borba, Rio Madeira).

Nos. 307, 366. ♂ ad., ♂ imm., Calama, 31. vii., 11. viii. 1907.—Wing 220, 223 ; tail 90, 92 ; bill 29, 34 mm.

Nos. 507, 508. ♀ ♀ ad., Calama, 3. ix. 1907.—Wing 236, 227 ; tail 98, 100 ; bill 35½, 33 mm.

"Iris brown, feet plumbeous, bill blackish grey."

These birds are typical of *serratus*, agreeing with others from the Rio Negro and Mattogrosso : forehead, pileum, and ear-coverts clear cinnamon-rufous ; no trace of an occipital crest ; middle of the abdomen plain white, without dusky cross-lines, etc.

T. s. serratus ranges from the upper Rio Negro (Marabitanas) and the Canra Valley, Eastern Venezuela, to the Madeira and Guaporé Rivers. It extends perhaps to Central Peru (Huánuco), though specimens from this country are slightly different. (Cf. Hellmayr, *l.c.* p. 719.)

[429. **Tinamus guttatus** Pelz.

Tinamus guttatus Pelzeln, *Verhandl. Zool. Bot. Gesellsch. Wien* xiii. pp. 1126, 1128 (1863.—Borba, Rio Madeira ; Rio Negro, Pará) ; Hellmayr, *Nov. Zool.* xiv. p. 409 (Humaytha).

Right bank : Borba (Natterer) ; left bank : Humaytha (Hoffmanns).]

430. **Crypturus cinereus** (Gm.).

Tetrao cinereus Gmelin, *Syst. Nat.* 1. ii. p. 768 (1789.—ex Buffon : Cayenne).
Tinamus cinereus Pelzeln, *l.c.* p. 292 (Borba).
Crypturus cinereus Hellmayr, *Nov. Zool.* xiv. p. 409 (Humaytha).

No. 273. Adult, Calama, 28. x. 1907.—Wing 168 ; bill 27 mm.

No. 571. ♂ imm., Jamarysinho, 10. ix. 1907.—Wing 164 ; bill 24½ mm

"Iris brown, feet dark brown, bill dark grey."

The immature male is more rufescent brown than the adult one. See my remarks *l.c.*

C. cinereus ranges from the Guianas to the Rio Madeira (both banks) and to Eastern Peru.

431. **Crypturus soui soui** (Herm.).

Tinamus Soui Hermann, *Tab. Affin. Anim.* p. 165 (1783.—ex D'Aubenton, Pl. enl. 829 : Cayenne).
Crypturus soui Hellmayr, *Nov. Zool.* xiv. p. 409 (Humaytha).
Tinamus pileatus Pelzeln, *l.c.* p. 294 (Borba).

No. 454. ♂ ad., Calama, 26. viii. 1907.—Wing 128 ; bill 19 mm.

Nos. 601, 611, 688. ♂♂ ad., S. Isabel, 1, 3, 12. x. 1907.—Wing 120—125 ; bill 19 mm.

No. 610. ♀ ad., S. Isabel, 3. x. 1907.—Wing 130 ; bill 20 mm. (parent bird to two eggs).

No. 612. ♂ juv., S. Isabel, 3. x. 1907.—Wing 120 mm.

" Iris pale brown, feet light green or greyish green, bill black or dark grey."

The series substantially corroborates what I have said *l.c.* The under parts are invariably deep ochraceous or tawny ochraceous, as in Guianan and Caura specimens, but the upper tail-coverts are either of the same dark rufous brown shade as the back or very slightly more reddish. The young bird is considerably paler and duller, both above and below. Two eggs, taken with the parent bird (No. 610), are of a reddish clay-colour and measure 38 × 29, 36 × 26½ mm.

[432. **Crypturus parvirostris** Wagl.

Crypturus parvirostris Wagler, *Syst. Av.*, Genus *Crypturus*, sp. 13 (1827.—Brasilia) ; Hellmayr, *Nov. Zool.* xiv. p. 410 (Humaytha).

Left bank : Humaytha (Hoffmanns).

The Humaytha birds have shorter wings than those from East and Southern Brazil, but do not differ in coloration.]

[433. **Crypturus adspersus adspersus** (Temm.).

Tinamus adspersus Temminck, *Hist. Nat. Pig. et Gall.* iii. p. 585 (1815.—Pará ; coll. Hoffmanusegg in Mus. Berlin, *type* examined) ; Hellmayr, *Abhandl. Bayer. Akad. Wissensch.* xxii. 3. pp. 702–3 (crit.).
T. undulatus (nec Temminck) Pelzeln, *l.c.* p. 292 (part. : Borba).
Crypturus a. adspersus Hellmayr, *Nov. Zool.* xiv. p. 410 (Humaytha).

Right bank : Borba (Natterer) ; left bank : Humaytha (Hoffmanns).

The four examples from Borba obtained by Natterer are practically identical with the type in the Berlin Museum, said to be from " Pará " (cf. my remarks *l.c.* p. 703). The adult female secured by Mr. Hoffmanns at Humaytha has the black cross-markings of the back rather broader, thereby forming the passage to *C. a. radiatus* (Gray), which represents *C. a. adspersus* on the banks of the Rio Guaporé, one of the headwaters of the Madeira (see *l.c.* pp. 704–5).]

[434. **Crypturus strigulosus** (Temm.).

Tinamus strigulosus Temminck, *l.c.* pp. 594, 752 (1815.—" dans la province de Pará "—Siber coll. in Mus. Berlin) ; Pelzeln, *l.c.* p. 293 (Borba).
Crypturus strigulosus Hellmayr, *Nov. Zool.* xiv. p. 411 (Humaytha).

Right bank : Borba (Natterer) ; left bank : Humaytha (Hoffmanns).

This species is hitherto only known from Pará and the Rio Madeira, ranging southwards as far as Cidade de Mattogrosso, Rio Guaporé.]

[435. **Crypturus bartletti** Scl. & Salv.

Crypturus bartletti Sclater & Salvin, *Proc. Zool. Soc. Lond.* 1873. p. 311 (1873.—Santa Cruz, Ucayali River, Eastern Peru); Hellmayr, *Nov. Zool.* xiv. p. 410 (Humaytha).

Left bank: Humaytha (Hoffmanns).

Like so many other Upper Amazonian types, e.g. *Anoplops salvini*, *A. melanosticta*, etc., this species ranges from Eastern Peru to the left bank of the Rio Madeira, but does not appear to occur on the right side of the stream. Miss Snethlage* has lately recorded it from the Upper Purús.]

436. **Crypturus variegatus** (Gm.).

Tetrao variegatus Gmelin, *Syst. Nat.* 1. ii. p. 768 (1789.—ex D'Aubenton, Pl. enl. 828 : Cayenne).
Tinamus variegatus Pelzeln, *l.c.* p. 293 (Borba).

No. 254. ♂ ad., Calama, 23. vii. 1907.—Wing 155; bill 30½ mm.

Nos. 129, 723. ♀ ad., ♀ imm., Calama, 29. vi., 23. x 1907.—Wing 155, 158; bill 29, 31 mm.

No. 977. ♂ imm., Marmins, 7. vii. 1908.—Wing 150; bill 30 mm.

No. 127. ♀ juv., Calama, 29. vi. 1907.—Wing 138; bill 23 mm.

"Iris brown, feet greyish green, bill black, below greyish."

The adult birds agree with others from Venezuela (Caura) and Rio Negro (Natterer coll.). *C. variegatus* inhabits the Guianas, the Caura district in Eastern Venezuela, as well as Northern Brazil from the upper Rio Negro (Marabitanas) to Pará and south to the Rio Madeira, where it is as yet only known from the right bank. In Eastern Ecuador it is apparently replaced by a closely allied form, *C. salvini* Salvad.,† which may be only subspecifically distinct, but so far I have not met with this race.

[437. **Rhynchotus rufescens catingae** Reiser.

Cf. Hellmayr, *Nov. Zool.* xiv. p. 411 (Humaytha).

Left bank: Humaytha (Hoffmanns).

No additional material has come to hand.]

438. **Aramides cajanea** (P. L. S. Müll.).

Fulica cajanea P. L. S. Müller, *Natursyst.* Suppl. p. 119 (1776.—ex D'Aubenton, Pl. enl. 352 : Cayenne).
Aramides cajanea Hellmayr, *Nov. Zool.* xiv. p. 412 (Humaytha).
A. ruficollis (nec Gmelin) Pelzeln, *l.c.* p. 316 (Borba; Rio Curicuriari).

No. 759. ♀ ad., Allianca, 8. xi. 1907. "Iris and feet clear red, bill pale green."—Wing 183; tail 60; bill 50 mm.

The skin agrees perfectly with several others from Cayenne, etc. The two birds named *A. ruficollis* by Pelzeln are more deeply coloured on the lower parts, but similar specimens occur also in Cayenne, Surinam, etc., along with pale-bellied ones.

* *Journ. f. Orn.* 1908. p. 23.
† *Cat. Birds Brit. Mus.* xxvii. p. 537 (1895.—Sarayaçu, Eastern Ecuador).

[439. **Creciscus viridis viridis** (P. L. S. Müll.).

Rallus viridis P. L. S. Müller, *Natursyst.* Suppl. p. 120 (1776.—ex D'Aubenton, Pl. enl. 368 : Cayenne).

Creciscus v. viridis Hellmayr, *Nov. Zool.* xiv. p. 412 (Humaytha).

Left bank : Humaytha (Hoffmanns). Natterer obtained it at the sugar-mill of Captain Gama, on the Rio Guaporé, as well as near Pará.*]

440. **Heliornis fulica** (Bodd.).

Colymbus fulica Boddaert, *Tabl. Pl. enl.* p. 54 (1783.—ex D'Aubenton, Pl. enl. 893 : Cayenne).

No. — . ♂ ad., S. Isabel, Rio Preto (no date). "Iris brown, feet black and white, bill black, lower mandible grey."—Wing 140 ; tail 95 ; bill 30 mm.

441. **Eurypyga helias** (Pall.).

Ardea Helias Pallas, *Neue Nord. Beytr.* ii. p. 48. pl. iii. (1781.—"Brasilien").

No. 550. ♀ ad., Jamarysinho, 14. ix. 1907.—Wing 211 ; tail 160 ; bill 50 mm.

No. 1036. ♂ ad., Maruins, Rio Machados, 19. vii. 1908.—Wing 218 ; tail 160 ; bill 54 mm.

"Iris yellow or pale red, feet greyish brown, bill black, below yellow."

Similar to Guianan and Venezuelan specimens.

[442. **Psophia leucoptera** Spix.

Psophia leucoptera Spix, *Av. Bras.* ii. p. 67. pl. lxxxiv. (1825.—"in sylvis campestribus fl. Rio Negro"—errore ! We substitute left bank of Rio Madeira) ; Pelzeln, *l.c.* p. 299 (Cachoeira das Pederneiras) ; Hellmayr, *Nov. Zool.* xiv. p. 412 (Humaytha).

Left bank of the Rio Madeira : Pederneiras (Natterer), Humaytha (Hoffmanns). Ranges to Bolivia and Peru. On the right side of the Madeira it is replaced by the next species.]

443. **Psophia viridis** Spix.

Psophia viridis Spix, *Av. Bras.* ii. p. 66. tab. lxxxiii. (1825.—Villa Nova on the Amazons (?)).

Nos. 996, 997. ♂♂ ad., Maruins, 11, 14. vii. 1908. "Iris brown, feet greenish yellow, bill green or greyish green."—Wing 273, 280 ; tail 125, 130 ; bill 37 mm.

Nos. 974, 999. ♂♂ imm., Maruins, 6, 11. vii. 1908. "Iris brown, feet greenish yellow, bill green or greyish green."—Wing 255, 280 ; tail 130 ; bill 34, 38½ mm.

Nos. 988, 998. ♀ ad., ♀ imm., Maruins, 9, 11. vii. 1908. "Iris brown, feet greenish yellow or greyish, bill greyish green."—Wing 275, 265 ; tail 125, 110 ; bill 36 mm.

These specimens agree with Spix's type in the Munich Museum. The series presents some variation in the colour of the mantle and inner secondaries. Sometimes these parts are chiefly dark brown with but little admixture of green, while in other specimens the green is predominating. This variation appears to be purely individual, for it does not depend on age or sex.

* *Porzana cayanensis* Pelzeln, *Zur Orn. Bras.* iii. p. 316.—Other species of the family Rallidae likely to occur on the Rio Madeira are : *Amaurolimnas concolor* (Gosse), *Neocrex erythrops* (Scl.), *Thyrorhina schomburgki* (Cab.), etc., all of which were obtained by Natterer on the banks of the Rio Guaporé.

P. obscura Pelz.,* from the Pará district, is, as pointed out by Dr. P. L. Sclater,† quite distinct from *P. viridis*, and may be distinguished by the following characters. The bill is shorter, with the upper mandible deeper, stouter, and more strongly curved, and is of a blackish brown colour with but a few small light spots here and there. The feet are blackish (not pale greenish or yellowish green as in *P. viridis*). While in *P. viridis* the whole foreneck is covered with brilliant violet-blue feathers, there is just a faint purplish sheen to be seen in *P. obscura*. In the latter species the mantle, too, is much darker, chocolate-brown with scarcely any green, and the upper wing-coverts show but a few narrow apical bands of dull blue or green, while there are broad, metallic green and purplish blue tips in *P. viridis*. The Munich Museum is indebted to Miss Snethlage for a fine specimen of *P. obscura*.

Until Mr. Hoffmanns procured his series the type discovered by Spix and the two females obtained by Natterer were, as far as I am aware, the only specimens of *P. viridis* existing in European Museums. The species is with certainty only known from the **right** bank of the Rio Madeira (Cachoeira de Guajaraguaçu and Salto Theotonio—Natterer; Maruins—Hoffmanns). Spix's original locality Villa Nova (north bank of the Amazons, near the junction of the Rio Xingú) is quite unreliable, for the type-specimen had evidently been kept in confinement. Wallace's record ‡ of *P. viridis* being found in the forests of Pará refers, of course, to *P. obscura*.

The series from Maruins has been divided between the Munich Museum and Count Berlepsch's collection.

444. **Harpiprion cayennensis** (Gm.).

Tantalus cayennensis Gmelin, *Syst. Nat.* 1. ii. p. 652 (1789.—ex D'Aubenton, Pl. enl. 820: Cayenne).

No. 110. ♂ ad., Calama, 26. vi. 1907.—Wing 305; tail 155; bill 130 mm.

No. 557. ♀ ad., Jamarysinho, 17. ix. 1907.—Wing 295; tail 160; bill 110 mm.

Nos. 933, 1039. ♂ ad., ♂ imm., Maruins, 19. vi., 19. vii. 1908.—Wing 285, 276; tail 150; bill 118, 115 mm.

"Iris brown, feet light green, bill dark green or greenish dusky."

445. **Ardea cocoi** Linn.

Ardea Cocoi Linnaeus, *Syst. Nat.* xii. 1. p. 237 (1766.—ex Brisson, etc.: "Cayana").

No. 1033. ♂ imm., Maruins, 17. vii. 1908.—"Iris yellow, feet black, bill dark grey, lower mandible yellow."

Widely distributed in South America.

446. **Agamia agami** (Gm.).

Ardea Agami Gmelin, *Syst. Nat.* 1. i. p. 629 (1789.—ex Buffon & D'Aubenton, Pl. enl. 859: Cayenne); Pelzeln, *l.c.* p. 301 (Matogrosso, etc.).

No. 1035. ♀ juv., Maruins, 19. vii. 1908.—"Iris yellow, feet grey, bill black, below greyish brown."

* *Sitzungsber. math.-naturwiss Cl. Akad. Wissensch. Wien* xxiv. 1857. p. 373.

† *Ibis* 1898. pp. 520-4. tab. xi.

‡ *Travels on the Amazons and Rio Negro* 1853. p. 473.

[447. **Cancroma cochlearia** Linn.

Cancroma Cochlearia Linnaeus, *Syst. Nat.* xii. 1. p. 233 (1766.—ex Brisson : Cayenne) ; Pelzeln, *l.c.* p. 303 (Borba, etc.).

Borba (Natterer). Widely distributed in South America.]

448. **Pilherodius pileatus** (Bodd.).

Ardea pileata Boddaert, *Tabl. Pl. enl.* p. 54 (1783.—ex D'Aubenton, Pl. enl. 907 : Cayenne).
Nycticorax pileatus Pelzeln, *l.c.* p. 302 (Matogrosso, Caicara, etc.).

No. 1005. ♂ ad., Maruins, 12. vii. 1908. "Iris clear yellow, feet and bill pale plumbeous."

Ranges from South Brazil to Guiana and Upper Amazonia.

[449. **Butorides striata** (Linn.).

Ardea striata Linnaeus, *Syst. Nat.* x. p. 144 (1758.—Surinam : Rolander).
Ardea scapularis Pelzeln, *l.c.* p. 301 (Matogrosso, Rio Negro, etc.).
Butorides striata Hellmayr, *Nov. Zool.* xiv. p. 411 (Humaytha).

Humaytha (Hoffmanns). Widely distributed in South America.]

450. **Tigrisoma lineatum** (Bodd.).

Ardea lineata Boddaert, *Tabl. Pl. enl.* p. 52 (1783.—ex D'Aubenton, Pl. enl. 860 : Cayenne).
Tigrisoma lineatum Hellmayr, *Nov. Zool.* xiv. p. 411 (Humaytha).

No. 556. ♀ ad., Jamarysinho, 17. ix. 1907. "Iris golden brown, feet green, bill black, below brown."

An adult bird, in every respect similar to another from Venezuela.

[451. **Zebrilus pumilus** (Bodd.).

Ardea pumila Boddaert, *Tabl. Pl. enl.* p. 54 (1783.—ex D'Aubenton, Pl. enl. 898 : "Le Crabier, des Philippines" (= rufous phase)—errore! *Cayenne* substituted as type locality).
Zebrilus pumilus Hellmayr, *Nov. Zool.* xiv. p. 412 (Humaytha).

Left bank : Humaytha (Hoffmanns).

Natterer procured a specimen at the sugar-mill of Captain Gama, on the Rio Guaporé.*]

[452. **Jabirú mycteria** (Licht.).

Ciconia mycteria Lichtenstein, *Verz. Dubl. Berliner Mus.* p. 76 (1823.—based upon "*Mycteria americana*" (nec Linn.) Latham : "in Am. calid. palud."—*Cayenne* substituted as type locality, aut. Berlepsch).
Mycteria americana (nec Linnaeus) Pelzeln, *l.c.* p. 305 (Borba).

Right bank ; Borba (Natterer). Widely distributed in South America.]

453. **Hoploxypterus cayanus** (Lath.).

Charadrius cayanus Latham, *Ind. Orn.* ii. p. 749 (1790.—ex Buffon & D'Aubenton, Pl. enl 833 : Cayenne).

Nos. 168, 417. ♀ ♀ ad., Calama, 5. vii., 18. viii. 1907. "Iris dark brown, feet red, bill black."—Wing 140, 148 ; tail 64, 59 ; bill 25, 23½ mm.

Not different from Guianan and Venezuelan specimens.

**Tigrisoma undulatum* Pelzeln, *Zur Orn. Bras.* iii. 1869. p. 302.

454. **Charadrius dominicus dominicus** P. L. S. Müll.

Charadrius dominicus P. L. S. Müller, *Natursyst.* Suppl. p. 116 (1776.—ex Brisson : S. Domingue).
C. pluvialis (nec Linn.) Pelzeln, *l.c.* p. 297 (Engenho do Gama, Rio Guaporé).

No. 629. ♂ (in winter dress), S. Isabel, 6. x. 1907. "Iris dark brown, feet grey, bill black."

455. **Aegialitis collaris** (Vieill.).

Charadrius collaris Vieillot, *Nouv. Dict.* xxvii. p. 136 (1818.—ex Azara, No. 392 : Paraguay).

Nos. 409, 426, 452. ♂♂ ad., Calama, 17, 18, 25. viii. 1907.—Wing 95—96 ; tail 45—48 ; bill 13—15 mm.

Nos. 408, 425. ♀♀ ad., Calama, 17, 18. viii. 1907.—Wing 95, 97 ; tail 47, 46 ; bill 15 mm.

"Iris dark brown, feet yellow or yellowish grey, bill black."

Like specimens from Bogotá, South Brazil, etc.

456. **Helodromas solitarius** (Wils.).

Tringa solitaria Wilson, *Amer. Ornith.* vii. p. 53. pl. 58. fig. 3 (1813.—Hudson's Bay, N. America).
Totanus solitarius Pelzeln, *Orn. Bras.* iii. p. 309 (Eng. do Gama, Rio Guaporé).

No. 591. ♀ ad., Jamarysinho, 25. ix. 1907.—"Iris blackish, feet grey-brown, bill black."

No. 626. ♀ ad. (assuming breeding plumage), S. Isabel, 5. x. 1907.—"Iris brown, feet olive-green, bill black."

A winter visitor to South America.

457. **Bartramia longicauda** (Bechst.).

Tringa longicauda Bechstein, *Kurze Übers. Latham* iv. p. 453. pl. 184 (1811.—"Nordamerika").
Tringoides Bartramia Pelzeln, *l.c.* p. 310 (Engenho do Gama, Rio Guaporé).

Nos. 770, 772. ♂♀ ad., Allianca, 9. xi. 1907.—Wing 155 ; tail 78, 84 ; bill 27, 29 mm. "Iris dark brown, feet light yellowish green, bill black, below yellow."

This also is a winter migrant to Brazil.

[458. **Tringites subruficollis** (Vieill.).

Tringa subruficollis Vieillot, *Nouv. Dict.* xxxiv. p. 465 (1819.—ex Azara : Paraguay).
Tringoides rufescens Pelzeln, *l.c.* p. 310 (Borba).

Borba (Natterer). Also a winter visitor to Amazonia.]

[459. **Tringa fuscicollis** Vieill.

Tringa fuscicollis Vieillot, *Nouv. Dict.* xxxiv. p. 461 (1819.—ex Azara : Paraguay).
Tringa Bonapartei Pelzeln, *l.c.* p. 311 (Caiçara, Engenho do Gama, Rio Guaporé).

Rio Guaporé : Engenho do Gama (Natterer).]

460. **Tringa maculata** Vieill.*

Tringa maculata Vieillot, *Nouv. Dict.* xxxiv. p. 465 (1819.—"aux îles Antilles et dans les parties méridionales des Etats-Unis") ; Pelzeln, *l.c.* p. 311 (Engenho do Gama, Matogrosso : Rio Guaporé).

* Besides those mentioned above, many other species of *Limicolae* are likely to occur during migration time on the banks of the Madeira. Natterer obtained quite a number, either on the Guaporé, or farther north in the Rio Negro district. Their names may be found in Pelzeln's *Ornithologie Brasiliens* iii. pp. 296-8, 308-13.

No. 617. ♂ ad. (winter plumage), S. Isabel, 3. x. 1907. "Iris dark brown, feet greyish green, bill black."—Wing 136; tail 60 ; bill 29 mm.

[461. **Plotus anhinga** Linn.

Plotus Anhinga Linnaeus, *Syst. Nat.* xii. 1. p. 218 (1766.—ex Marcgrave : Eastern Brazil) ; Pelzeln, *l.c.* p. 325 (Borba).

Borba (Natterer).]

[462. **Palamedea cornuta** Linn.

Palamedea cornuta Linnaeus, *Syst. Nat.* xii. 1. p. 232 (1766.—ex Marcgrave & Brisson : Eastern Brazil and Guiana) ; Pelzeln, *l.c.* p. 313 (Bananeira).

Cachoeira do Bananeira (Natterer).]

[463. **Alopochen jubata** (Spix).

Anser jubatus Spix, *Av. Bras.* ii. p. 84. pl. cviii. (1825.—" ad ripam fl. Solimoëns ").
Chenalopex jubatus Pelzeln, *l.c.* p. 319 (Barra do Rio Guaporé).

Rio Madeira : Barra do R. Guaporé (Natterer).]

III. SUMMARY.

In the foregoing account I have only dealt with the species that have actually been taken in the Madeira district, yet their number could easily be increased by adding those which were observed or collected by Natterer farther south, on the banks of the Rio Guaporé, as well as on the Rio Negro in the north, and which are very likely to occur also in the intervening country. The Rio Madeira faunistically belongs to the great Amazonian subregion. According to its geographical situation the avifauna shows a mixed character, being composed partly of Upper Amazonian forms, partly of species peculiar to the Lower Amazons, though there are, at the same time, a good many characteristic species not known to occur elsewhere. For many Upper Amazonian forms the Madeira Valley appears to constitute the easterly limit of their range. Quite a number of them reach the left bank of the river, while they are not found at all or represented by allied forms on the right side. Others are met with on both banks, but not recorded from any locality farther east. A certain difference apparently exists between the bird-life of Borba and that we find farther up in the Machados district. Many striking Lower Amazonian species extend along the south shore of the Amazons to Borba and even to the Rio Guaporé, occurring only on the right side, whose avifauna shows a decided similarity to that of the Tapajóz. Unfortunately, our knowledge of the ornithology of Western Mattogrosso is far from complete, resting exclusively upon Natterer's researches ; still from the scanty information as yet available it would appear that the fauna of the Rio Guaporé is essentially Amazonian, while a very different lot of birds was met with by the great Austrian naturalist at Villa Maria and other places on the Upper Paraguay.

The subjoined tabular lists may serve to illustrate the above conclusions.

(A) Species peculiar to the Madeira Valley. Unless otherwise stated they are restricted to the right bank of the stream.

1. *Odontorhynchus cinereus.*
2. *Euphonia laniirostris laniirostris* (both banks).
3. *Tachyphonus cristatus madeirae* („ „).
4. *Hemithraupis flavicollis centralis* („ „).
5. *Cyanocorax chrysops diesingii.*
6. *Platyrinchus senex nattereri.*
7. *Todirostrum senex.*
8. *Pipra aureola flavicollis* (left bank).
9. *P. aureola calamae.*
10. *Tityra leucura.*
11. *Attila spadiceus rufigularis.*
12. *Xenops rutilus tenuirostris.*
13. *Hylexetastes uniformis.*
14. *Deconychura stictolaema.*
15. *Dendrocolaptes hoffmannsi.*
16. *Dendrocolaptes certhia concolor.*
17. *Thamnophilus major borbae* (both banks).
18. *Myrmotherula menetriesii berlepschi.*
19. *Sclateria schistacea humaythae* (both banks).
20. *Hypocnemis myotherina sororia.*
21. *Anoplops hoffmannsi.*
22. *Phlegopsis borbae.*
23. *Liosceles t. thoracicus.*
24. *Nonnula sclateri* (left bank).
25. *Pteroglossus bitorquatus sturmii.*
26. *Pyrrhura rhodogaster.*
27. *Brotogeris chrysosema.*
28. *Amazona nattereri* (left bank).
29. *Penelope pileata.*
30. *Psophia viridis* (right bank).

(B) Species peculiar to that tract of country bounded by the Madeira and Tapajóz Rivers.

1. *Leucolepis modulator griseolateralis.*
2. *Pachysylvia muscicapina griseifrons.*
3. *Pipra nattereri.*
4. *Dendrornis elegans.*
5. *Thamnophilus aethiops punctuliger.*
6. *Dysithamnus s. schistaceus.*
7. *Myrmotherula ornata hoffmannsi.*
8. *Myrmelastes luctuosus luctuosus.*
9. *Phlegopsis nigromaculata bowmani.*
10. *Conopophaga melanogastra.*
11. *Thalurania balzani.*
12. *Picumnus borbae.*

(C) Species peculiar to Lower Amazonia (Pará, Tocantins, Tapajóz, etc.) and the Madeira district (as far as Cidade de Mattogrosso, Rio Guaporé).

1. *Pachysylvia thoracica semicinerea.*
2. *Calospiza albertinae.*
3. *Snethlagea minor.*
4. *Chiromachaeris manacus purus.*
5. *Attila bolivianus nattereri.*
6. *Automolus infuscatus paraensis.*
7. *Hypocnemis myotherina ochrolaema* (on the Madeira up to Borba only).
8. *Chloronerpes chrysochloros paraensis.*
9. *Picumnus aurifrons aurifrons.*
10. *Pteroglossus inscriptus.*
11. *Selenidera maculirostris gouldii* (on the Madeira as far as Borba).
12. *Pyrrhura picta amazonum* (also on left bank of Madeira).
13. *Gypopsitta vulturina* (as far as Borba).
14. *Leucopternis kuhli.*
15. *Syrnium superciliare.*
16. *Crypturus strigulosus.*

(D) Species representing each other on different sides of the Rio Madeira.

Left Bank.	Right Bank.
1. *Leucolepis modulator modulator.*	1. *L. modulator griseolateralis.*
2. *Thryothorus genibarbis juruanus.*	2. *T. g. genibarbis.*
3. *Pipra aureola flavicollis.*	3. *P. aureola fasciicauda* (Machados, above the Falls).
	4. *P. aureola calamae* (Calama, Allianca).
4. *Dendrornis guttata guttatoides* (also near Calama, right bank).	5. *D. guttata eytoni* (Borba).
5. *Dendrexetastes rufigula devillei.*	6. *D. rufigula* subsp.
6. *Thamnophilus aethiops polionotus.*	7. *T. aethiops punctuliger.*
7. *Sclateria schistacea humaythae* (also in the Machados district, right bank).	8. *S. schistacea leucostigma* (Borba).
8. *Hypocnemis myotherina melanolaema.*	9. *H. myotherina sororia* (Machados).
	10. „ „ *ochrolaema* (Borba).
9. *Phlegopsis nigromaculata nigromaculata.*	11. *P. nigromaculata bowmani.*
10. *Veniliornis ruficeps haematostygma* (also in the Machados district).	12. *V. ruficeps ruficeps* (Borba).
11. *Bucco tamatia pulmentum.*	13. *B. tamatia tamatia.*
12. *Psophia leucoptera.*	14. *P. viridis*

(E) Upper Amazonian species ranging to the right bank of the Rio Madeira, but not occurring farther east.

1. *Lanio versicolor.*
2. *Thlypopsis sordida amazonum* (?).
3. *Saltator coerulescens azarae.*
4. *Muscisaxicola fluviatilis.*
5. *Todirostrum chrysocrotaphum.*
6. *T. latirostre.*
7. *Chiroxiphia regina.*
8. *Synallaxis propinqua.*
9. *Ancistrops strigilatus.*
10. *Automolus subulatus subulatus.*
11. *Thamnophilus nigrocinereus tschudii.*
12. *T. doliatus subradiatus.*
13. *Myrmotherula hauxwelli hauxwelli.*
14. *Hypocnemis naevia theresae.*
15. *H. poecilinota griseiventris.*
16. *H. hemileuca.*
17. *Ramphocaenus melanurus amazonum.*
18. *Conopophaga aurita.*
19. *Chaetura cinereiventris sclateri.*
20. *Phoethornis philippii.*
21. *Prionornis p. pyrrholaemus.*
22. *Monasa morphoeus peruana.*
23. *Nonnula rubecula cineracea.*
24. *Capito aurantiicollis.*
25. *Ramphastos cuvieri cuvieri.*
26. *R. culminatus.*
27. *Pteroglossus beauharnaesii.*
28. *Conurus weddellii.*
29. *Pionites leucogaster xanthomerius.*
30. *Leucopternis schistacea.*
31. *Otus watsonii.*
32. *Odontophorus stellatus.*
33. *Ortalis guttata.*
34. *Penelope jacqúaçu.*

(F) Upper Amazonian species ranging to the left bank of the Rio Madeira, but not occurring on the right.

1. *Calospiza nigrocincta.*
2. *Knipolegus sclateri.*
3. *Pipra coelesti-pileata.*
4. *Anoplops salvini.*
5. *A. melanosticta.*
6. *Phlegopsis erythroptera.*
7. *Bucco tamatia pulmentum.*
8. *Pteroglossus flavirostris mariae.*
9. *Crypturus bartletti.*

(G) Species of the Rio Madeira represented by nearly allied races on the Guaporé.

Rio Madeira.	Rio Guaporé.
1. *Saltator coerulescens azarae.*	1. *S. coerulescens coerulescens.*
2. *Paroaria gularis gularis.*	2. *Paroaria gularis cervicalis.*
3. *Lampropsar tanagrinus tanagrinus.*	3. *L. tanagrinus violaceus.*
4. *Ramphocaenus melanurus amazonum.*	4. *R. melanurus sticturus.*
5. *Thalurania balzani.*	5. *T. eriphile baeri.*

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